INTERSTATER
Assembly Instruction Manual

Massey Ferguson

Model: 5435, 5445, 5455 & 5460
Cab - 2 Wheel Drive - Standard Hood

Tractors equipped with additional options, special equipment, tractor manufacturer modifications, new tractor models, or Customer alterations may prevent this Mount Kit from being properly mounted to the tractor. Alamo Group is not responsible for modifications to the MountKit to accommodate these differences.

ALAMO INDUSTRIAL
1502 E. Walnut
Seguin, Texas 78155
210-379-1480

Manual P/N 02981905
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MEMBER OF THE ALAMO GROUP
ALWAYS ON THE CUTTING EDGE

TO THE OWNER/OPERATOR/DEALER

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

BEFORE YOU START!! Read the safety messages on the implement and shown in your manual. Observe the rules of safety and common sense!

DANGER
FAILING TO FOLLOW SAFETY MESSAGES AND OPERATING INSTRUCTIONS CAN CAUSE SERIOUS BODILY INJURY OR EVEN DEATH TO OPERATOR AND OTHERS IN THE AREA.
1.
READ MANUAL
2. NO RIDERS. NO CHILDREN OPERATORS.
3. USE SAFETY SHOES, HARD HAT, SAFETY GLASSES, SEAT BELTS, & ROPS
4. BLOCK UP SECURELY BEFORE WORKING UNDER.
1. Study and understand operator's manual, safety signs, and instructional decals for tractor and implement to prevent misuse, abuse, and accidents.
• Learn how to stop engine suddenly in an emergency. Be alert for passerby and especially children.
2. Allow no children on or near implement or tractor. Allow no riders on tractor and implement. Falling off may cause serious injury or death from being run over by tractor or cutter or contact with rotating blades.
3. Operate only with tractor having Roll-Over Protective Structure (ROPS) and with seatbelt fastened securely and snugly to prevent injury and possible death from falling off or tractor overturn. Personal Protective Equipment such as Hard Hat, Safety Glasses, Safety Shoes, and Ear Plugs are Recommended.
4. Block up or support raised machine and all lifted components se curely before putting hands or feet under or working underneath any lifted components to prevent crushing injury or death from sudden dropping or inadvertent operation of controls. Make certain area is clear before lowering or folding.
5. Before transporting, put Lift Lever in detent or full-lift position. Secure the implement for transport by installing Cylinder Stops or Transport Pin on Pull-type implement center axle and Wing Transport Locks on folding implements.
• Attach Safety Chain to cutter and towing unit securely. See Operator's Manual.
6. Make certain that the SMV sign, Warning Lights, and Reflectors are clearly visible. Follow local traffic codes.
7. Never operate with Cutting Head raised if passerby, bystanders, or traffic are in the area to reduce possibility of injury or death from Objects thrown by Blades under Guard or cutter structure.
8. Before dismounting, secure implement in transport position or lower to ground.
• Put tractor in park or set the brake, disengage PTO, stop engine, and remove key, and wait until noise of rotation Has ceased to prevent entanglement in rotating parts which can cause injury or death.
• Never mount or dismount a moving vehicle. Crushing from runover may cause injury or death.
5. TRANSPORT SAFELY, LOCK UP.
6. USE SMV, LIGHTS, & REFLECTORS.
7. DO NOT OPERATE WITH CUTTER OR WING RAISED.
8. DO NOT MOUNT OR DISMOUNT WHILE MOVING.
00749117

WARRANTY INFORMATION:

Read and understand the complete Warranty Statement found in this Manual. Fill out the Warranty Registration Form in full and return it to within 30 Days. Make certain the Serial Number of the Machine is recorded on the Warranty Card and on the Warranty Form that you retain.

INTRODUCTION

ABOUT THIS MANUAL:

The intent of this publication to provide the competent technician with the information necessary to perform the CORRECT Assembly to the Alamo Industrial Product. This will, in turn provide for complete customer satisfaction

It is hoped that the information contained in this and other Manuals will provide enough detail to eliminate the need for contact of the Alamo Industrial Technical Service Dept. However, it should be understood that many instances may arrive where correspondence with the Manufacturer is necessary.

CONTACTING MANUFACTURER: (Please help us Help You! Before You Call!)

Alamo Industrial Service Staff Members are dedicated to helping you solve your problem, or your customer's service problem as quickly and efficiently as possible. Unfortunately, we receive entirely to many calls with only a minimum amount of information. In some cases, the correspondent has never gone out to look at the equipment and merely calls inquiring of the problems described to him by the operator or customer.

Most calls received by Alamo Industrial Service can be classified into approx. 6 general categories.

1. Hydraulic or Mechanical Trouble Shooting.
2. Request for Technical Information or Specifications.
3. Mounting or Fitting Problem.
4. Special Service Problem.
5. Equipment Application Problems.
6. Tractor Problem Inquiries.

HOW YOU CAN HELP:

Make sure the call is necessary! Most of the calls received may not be necessary if the Dealer Service Technician would do the following.

1. Check the Service Information at your Dealership provided by Alamo Industrial, This would include, Service Bulletins, Information Bulletins, Parts Manuals, Operators Manuals, Assembly Manual or Service Manual, many of these are available via the Alamo Industrial Internet site (www.Alamo-Industrial.Com). Attempt to diagnose or repair problem before calling.

2. If a call to Alamo Industrial is needed, Certain Information should be available and ready for the Alamo Industrial Service Staff. Such information as, Machine Model, Serial Number, Your Dealer Name, Your Account Number and Any other information that will be useful. This information is vital for the development of a prompt and correct solution to the problem. This will also help to develop a database of problems and related solutions, which will expedite a solution to future problems of a similar nature.

3. The technician may be asked to provide detailed information about the problem including the results of any required trouble shooting techniques. If the information is not available, The technician may be asked to get the information and call back. Most recommendations for repairs will be based on the procedures listed in the Service Manual / Trouble Shooting Guide and Information provided by customer.

CONTACT ALAMO INDUSTRIAL:

Alamo Industrial, 1502 E. Walnut St. Seguin TX. 78155, Technical Service Dept. PH: 830-379-1480

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Section 1

INTERSTATER

Massey Ferguson

5435 , 5445, 5455 & 5460

Cab - 2 Wheel Drive

Standard Hood

PRE-DELIVERY INSPECTION CHECKLIST

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MACHETE PRE-DELIVERY INSPECTION CHECKLIST

Pre-Operation Inspection: Check the following items before operating the unit to assure that they are properly assembled. (See following page 1-4 for component location)

Saftey Equipment:

___ Operators Manual is with Unit.
___ The Safety Decals are installed as listed in the Assembly Manual.
___ Valve operation plate is installed.
___ Operators cage or Tractor Cab is in place
___ Deflectors are installed on the Mower Head
___ Tractor Rops or Cab with seatbels installed properly.
___ All Foot Guards and safety switch are installed and functional.

Frame:

___ Axle Plate Bolts are torqued.
___ Head Mounting Bolts tightened.
___ Frame attaching Bolts tightened.
___ Front Support Bolts are torqued.
___ Hydraulic Tank mounting Pins / Bolts in place correctly.
___ All Welds inspected toinsure proper welds and locations.

Hydraulic System:

___ Oil Level in Hydraulic Tank is within the sight gauge. (Item 5 page 1-4)
___ Hose connections are tight.
___ Hoses do not have any kinks or twist in them.
___ Front Pump Shaft adapter bolts are tight.
___ Front Pump Shaft Coupler / Drive Shaft is lubricated and has an anti-seize compound on the Splines of Pump and Shafts.
___ The Pump Drive Shaft has correct alignment.
___ Suction Hose has no leaks or kinks.

Flail Mower Head:

___ Skid Shoe Bolts are torqued to 120 ft-lbs
___ Motor Bolts are torqued to 120 ft-lbs
___ Belt Alignment& tension adjustment is correct.
___ Cutter shaft bearings are properly lubricated
___ Roller bearings are properly lubricated
___ Blades swing freely.
___ All Pins and Clips for Rear Mower are installed
___ Clutch on Rear Mower has been checked for proper adjustment and conditions per parts book reguirments.
___ All Belt guards are installed correctly.

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MACHETE PRE-DELIVERY INSPECTION CHECKLIST

Tractor Mower Operation Inspection:

Using all Safety precautions, operate the Tractor and Mower unit for 30 minutes and while the unit is running check the following items: **Note!** Only make adjustments after the mower has been turned off and all motion has stopped and all hydraulic pressure has been relieved.

___ Check for Hydraulic oil leaks at the hose connections
___ Operate the boom and mower head throughout its full range of motion and check for hose's rubbing, pinching, or kinking.
___ Make sure the Return Filter Gauge is reading in the Green after Oil is warm.
___ Check the function of the Mower Head On-Off Valve and switch for proper function
___ Make sure that the tractor will not start with the mower on-off switch in the on position.
___ Check the Blade Rotation for the Rotary Mower Head to make sure it is turning Clockwise looking from the top of the mower deck.
___ Make sure the control valve boom movements agree with the valve operation decal.
___ Make Sure Boom Movement operates as expected and is smooth and under control (no air in the control system)
___ Look for any unusual or excessive noise or vibrations.
___ Make sure the left rear wheel of the tractor stays on the ground when the boom is fully extended horizontally with 200 lbs. placed on the outside of the mower head.

Post-Operation Inspection:

___ Check that the oil in the hydraulic tank has not turned milky in color or has foam on top.
___ Check that there are no loose fasteners or hardware.

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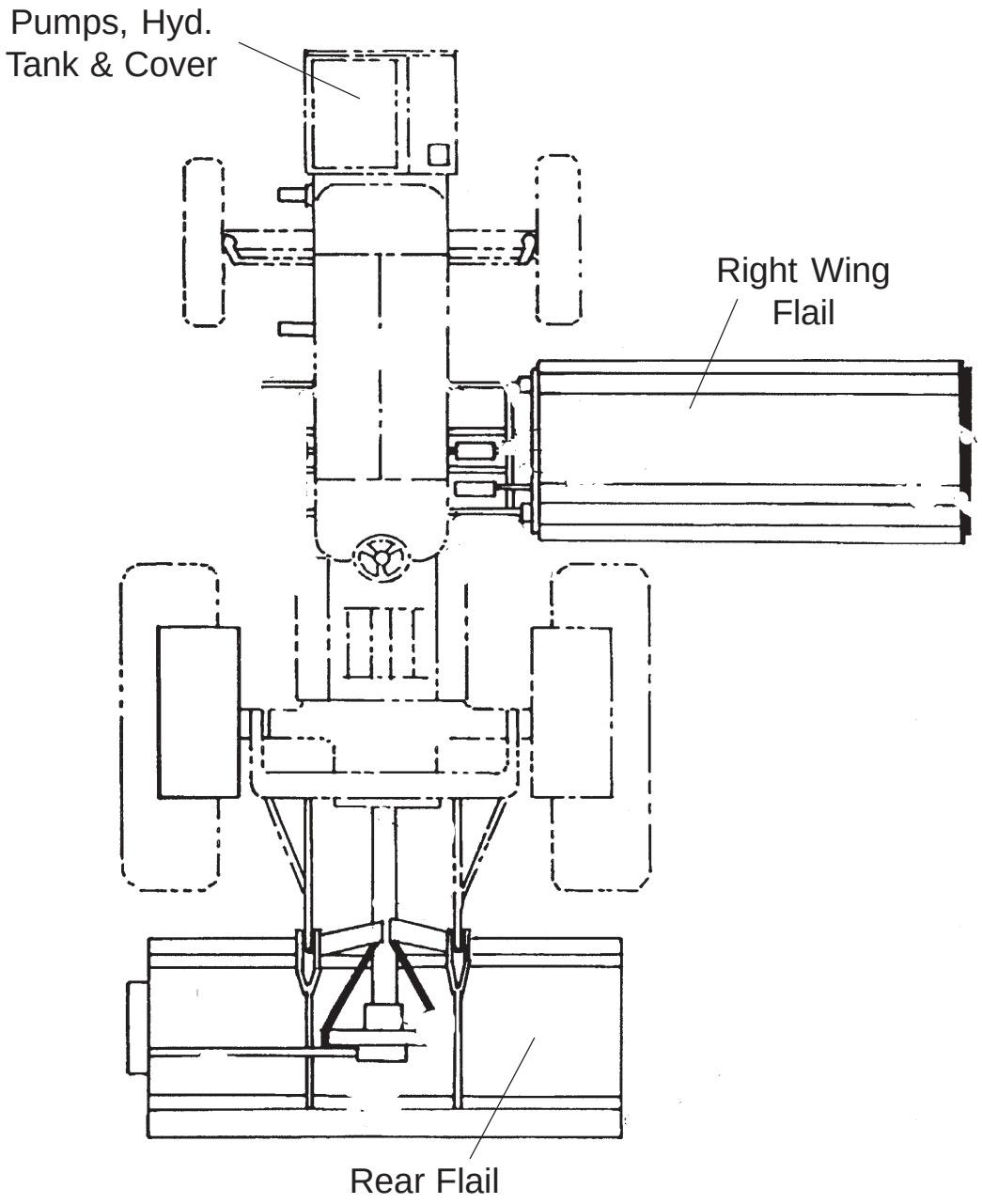
Tractor - Mower Component Location

For Check List



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Section 2

INTERSTATER

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Cab - 2 Wheel Drive
Standard Hood

Main Frame Asy.

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Main Frame Dual / Single Wing

Prepare Tractor:

Remove Components from Tractor. There are items that must be removed from tractor that will not be used before the mainframe can be mounted. The steps on the right side has to be removed. (See Figure 1). Before beginning any work on Tractor the Negative Ground Battery cable needs to be disconnected from the battery to protect the electrical system. Before reconnecting Battery cable check all connections that you have made and make certain all components of the tractor are in the OFF position.

Figure 1

Prepare Main Frame:

The Main frame (See Figure 2) will be bolted up under the tractor at the rear of the tractor to a Rear Frame Mount weldment (P/N 02981801). The front of the main frame bolts to the front frame support weldments (P/N 02981813 LH Weldment & P/N 02981814 RH Weldment) (See Figure 2 & 3). .

Mount Frame Rails To Tractor:

1. Install the Front Frame Support Mount Weldments. (P/N 02981813 LH Weldment & P/N 02981814 RH Weldment) (See Figure 3 & 3A). .There is a LH and a RH Frame Support Mount Weldment to mount main frame to.. These will bolt to the front of the tractor with two mounting bolts on each side. When Starting the two mounting bolts it will work best to install the RH Side (See Figure 2) and the LH Side (See Figure 3). Do not tighten the two mount bolts on each side , this will allow you to align mounting bolts easier. Move to the rear of the tractor under the rear axle, check the threaded bolt holes in the rear axle housing. Remove any plugs or bolts that will be in the way. (See Figure 4 & 5)

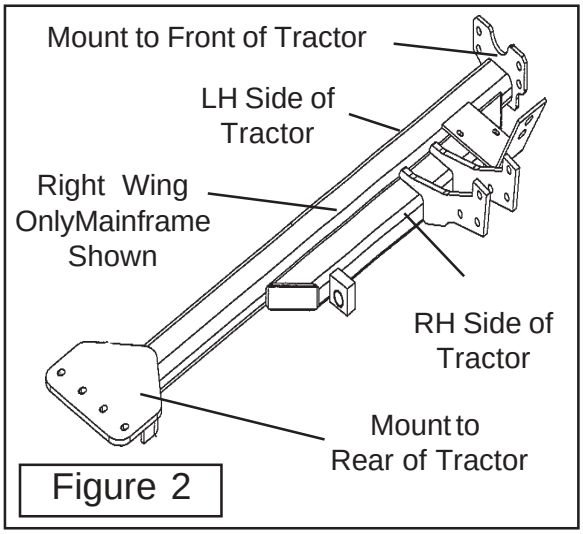

Figure 2

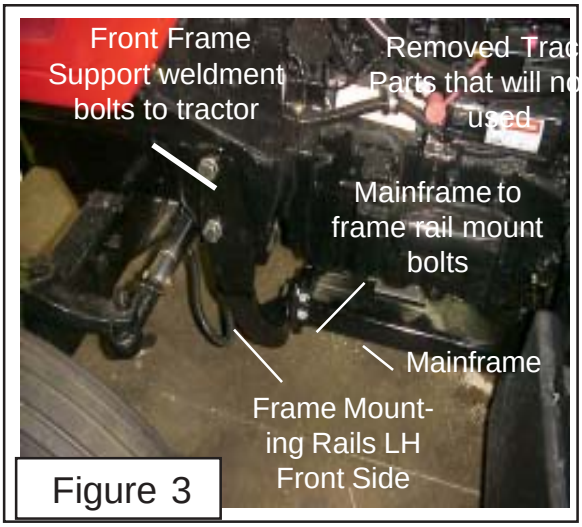

Figure 3

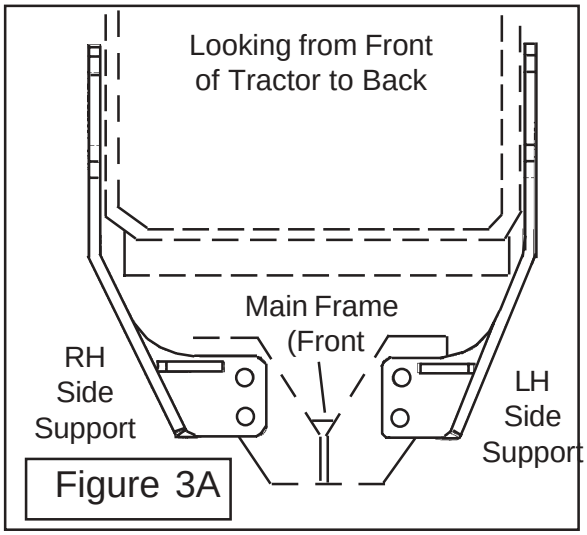

Figure 3A

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2. Install Rear Support Weldment. The rear support weldment P/N 02981801 bolts to the tractor rear axle housing (See Figure 5, 5A & 6), The rear axle housing has threaded holes in it. Shown below is with the tractor rear wheels removed for illustration and to make it easier to install weldments. Use caution when assembling this part, it is heavy approc 135 lbs. Use Jacks to lift it and clamp it to the jacks where it wont fall. This is a two person step.

3. Tightening Mainframe Bolts. With all the bolts installed, the bolts at the front of the mainframe to the frame mounting rails, the bolts through the rear of the mainframe support weldment. Tighten the bolts beginning with the bolts that mount the frame rail mount to the tractor in the front (See Figure 3 & 4). Second tighten the four bolts that mount the frame rail to the frame rail mounts (See Figure 3) . Next tighten the rear mainframe bolts that connects the rear of the mainframe to the tractor rear axle housing. Once all the bolts are tightened you can remove any floor jacks from under main frame.

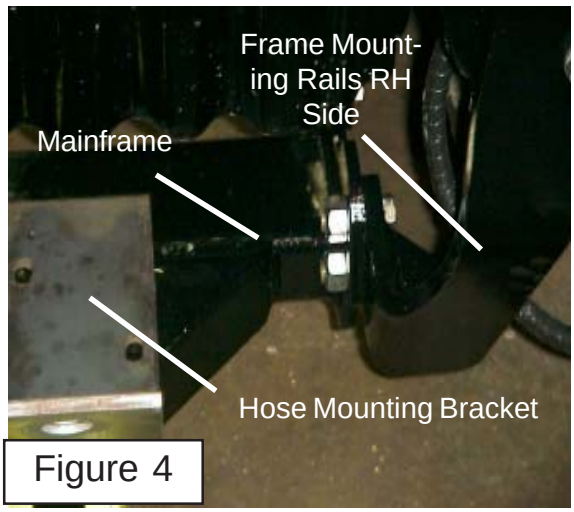

Figure 4

4. Install RH Wing Lift frame. The wing lift frame pivots on two hinge pins. When installing these pins they must be aligned in a way that will allow the retaining bolt to be installed. The Right side and the Left side will install in the same way (See Figure 7 & 8). The wing lift frame pivots on two hinge pins. When installing these pins they must be aligned in a way that will allow the retaining bolt to be installed. The Right side and the Left side will install in the same way (See Figure 7 & 8)

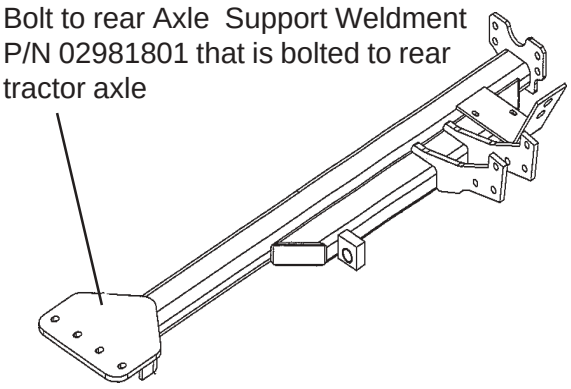

Figure 5

5. Install Lift Cylinder Mount Weldment . The lift cylinder mount is a bolted on main frame weldment (See Figure 8). Note the bracket also have the transport lug welded to it.

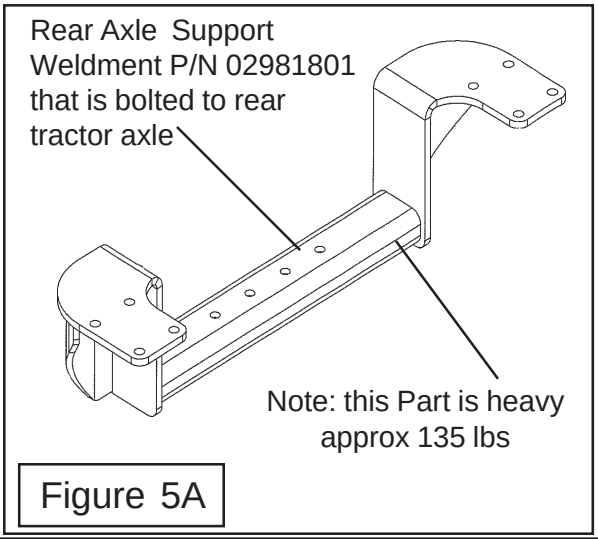

Figure 5A

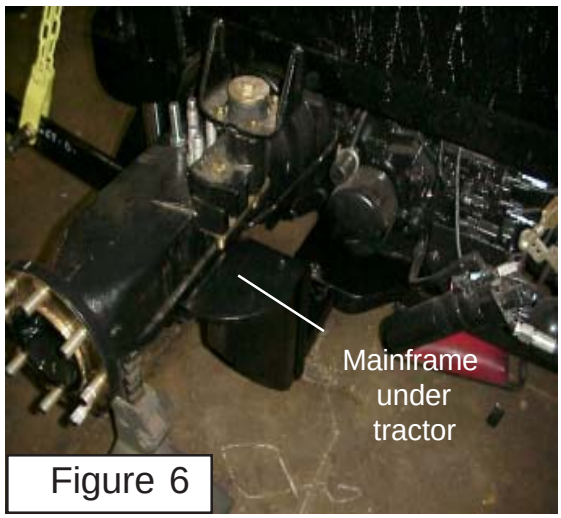

Figure 6

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Main Frame Dual / Single Wing

6. Install the Lift and Tilt Cylinders. Install the Lift cylinder and the Tilt Cylinder. When installing these they must be installed with the rod end clevis grease fitting facing up and out (See Figure 10 & 11). **The Wing Lift Cylinders MUST have lift control spacer installed to control wing lift height (See Figure 10 & 11)**. Do not remove any shipping plugs from cylinders or hoses until you are ready to install the hoses, this will keep the system and components clean while unit is being assembled.

7. Tilt and Lift Cylinder Controls. The Cylinders are powered by the tractor hydraulic system. The hoses for the cylinder hoses will plug into the back of the tractor hydraulic outlets. The Tractors factory hydraulic controls will be used to control the wing lifting and fold. The hydraulic kit to instal hoses are included in mount kit. (See Figure 12). When running hoses from Cylinders to the rear of the tractor make certain not to cross the hoses of cylinders at the remote. If cylinders are not functioning properly check hose to make certain cyl. hoses are connected correctly (See Figure 13).

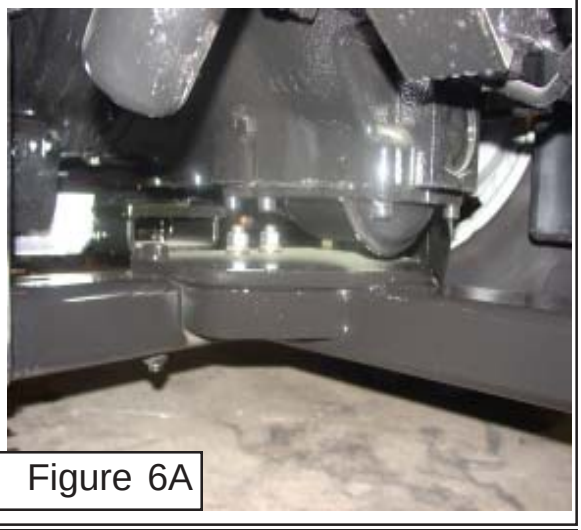

Figure 6A

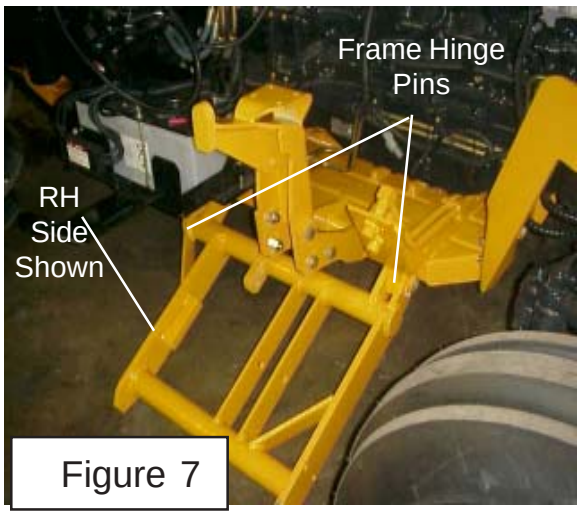

Figure 7

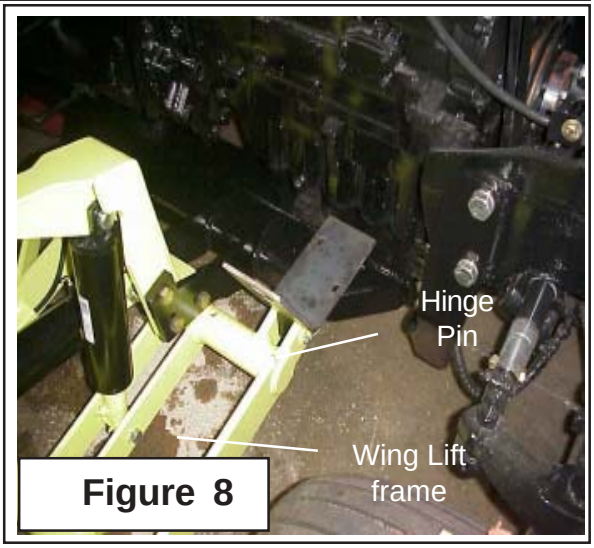

Figure 8

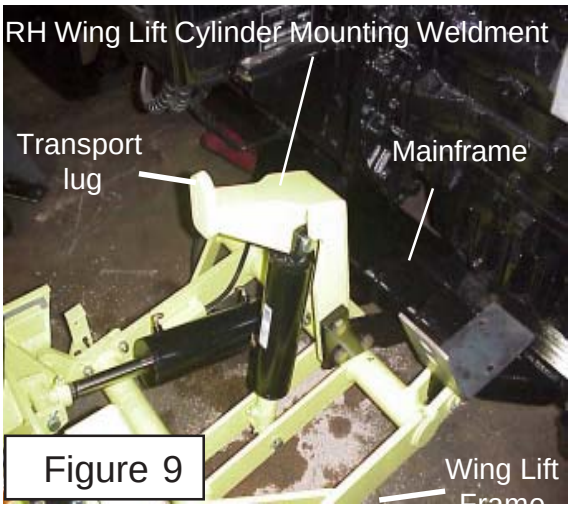

Figure 9

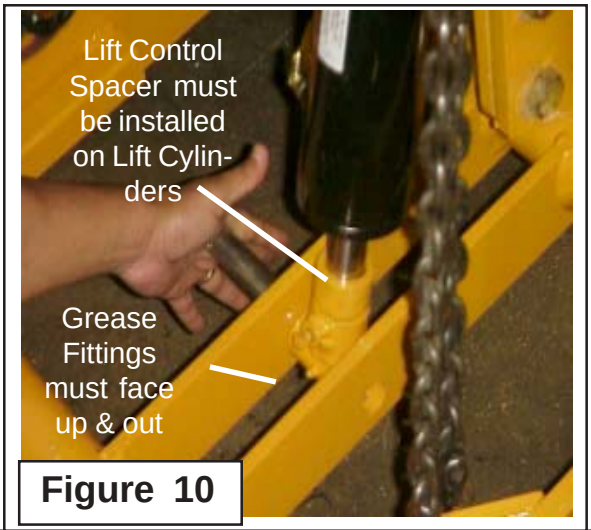

Figure 10

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Main Frame Dual / Single Wing

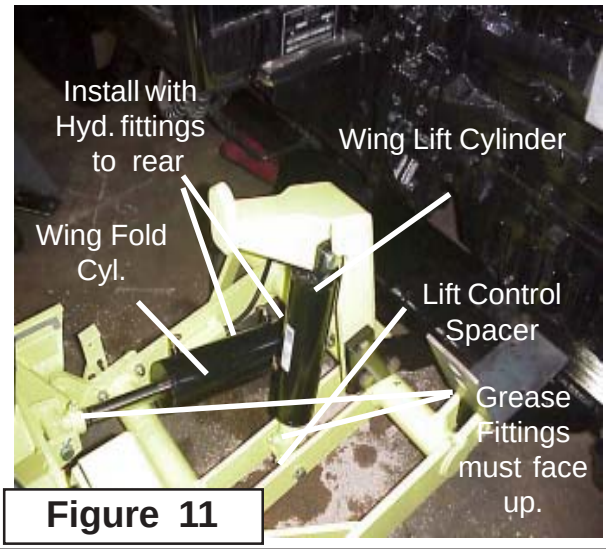

Figure 11

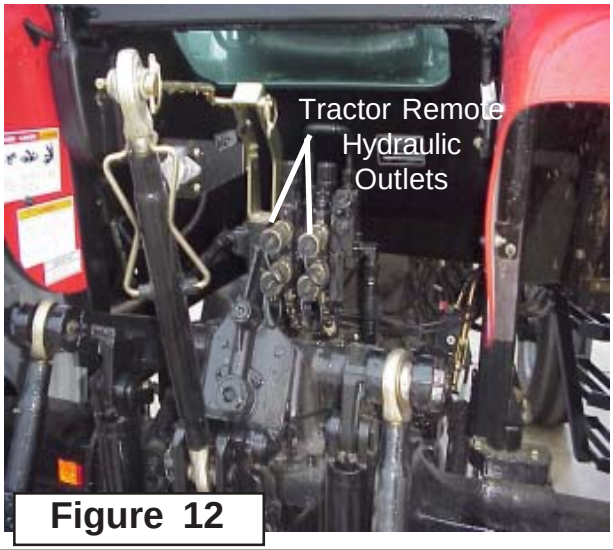

Figure 12

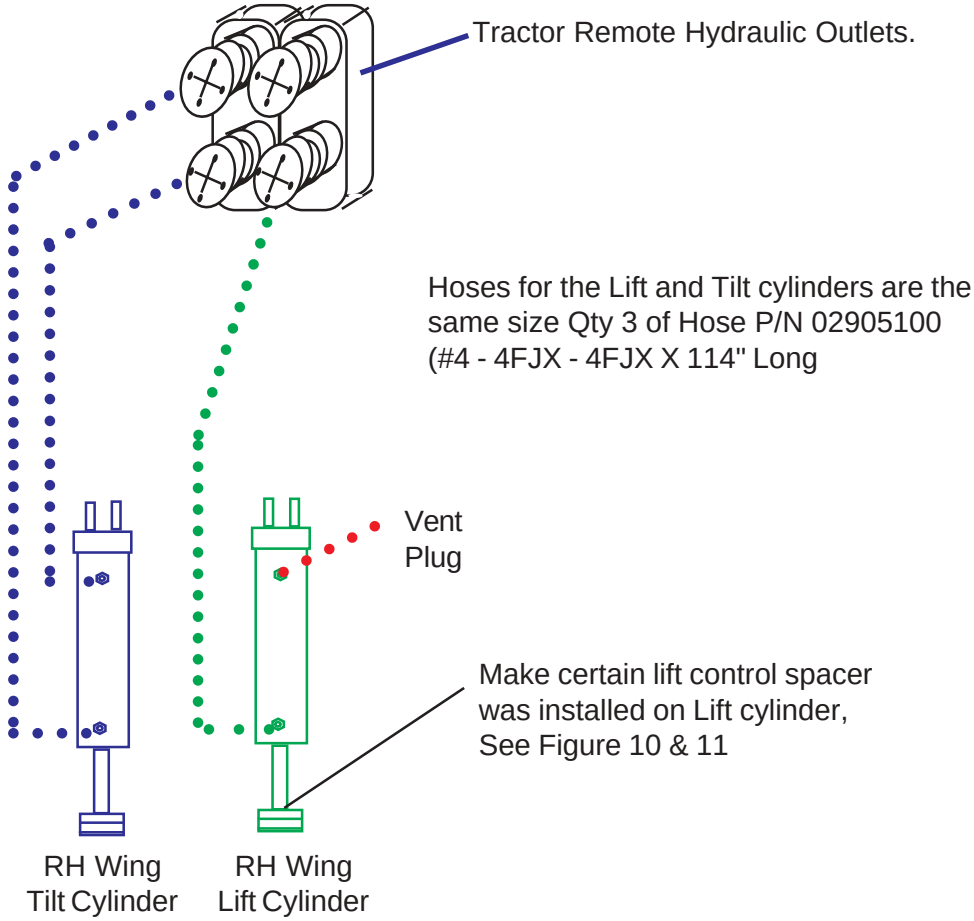
Tractor Remote Hydraulic Outlets.
Hoses for the Lift and Tilt cylinders are the same size Qty 3 of Hose P/N 02905100 (#4 - 4FJX - 4FJX X 114" Long
Vent Plug
Make certain lift control spacer was installed on Lift cylinder, See Figure 10 & 11
RH Wing Tilt Cylinder
RH Wing Lift Cylinder

Figure 13

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NOTES

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Section 3

INTERSTATER

Massey Ferguson

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Cab - 2 Wheel Drive
Standard Hood

Pump, Driveshaft &

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Pump & Driveshaft Schematic

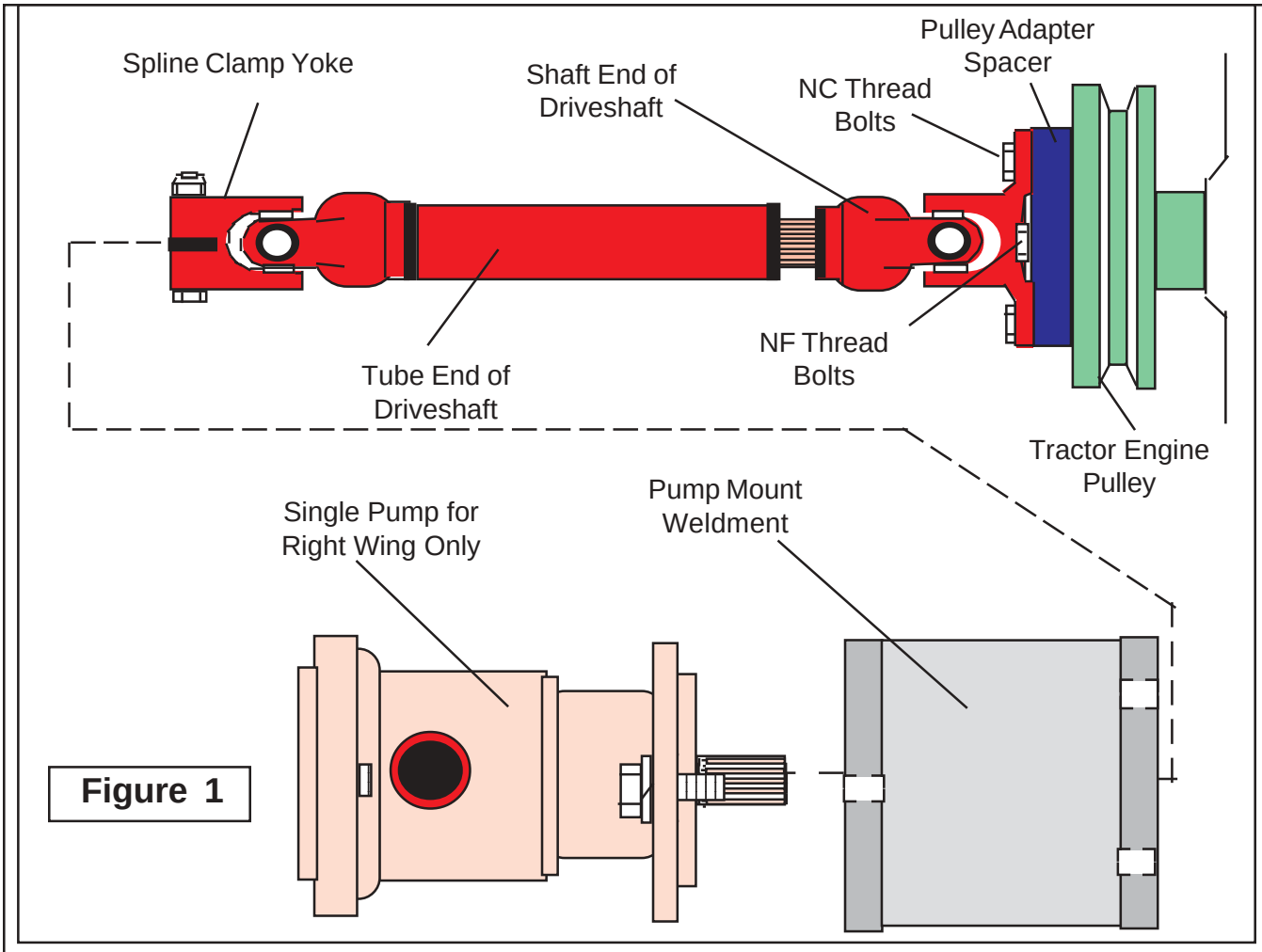

Figure 1

Install Driveshaft, Pump & Tank:

1. Gain Access to Tractor Engine. The hood side panels are removed to revel the tractor engine (See Figure 2). Remove the engine guards on the left or right hand side of tractor (See Figure 3). This will allow you access to the Tractor Crankshaft Pulley. (See Figure 1).

2. Remove the Cast piece on Front of Bolster. The casting on the front bolster of tractor will need to be removed, it is a bolt on component. This casting will not be used so set it aside to save with the tractor (See Figure 4).

3. Install Pulley Adapter Spacer**.** The Pulley adapter spacer (P/N 02979238) bolts to the crankshaft pulley with four 7/16" - NF X 1-3/4" long bolts & Lockwashers (P/N 02976344 Bolts & 00022200 Lockwasher. The four holes in adapter for these bolts are the non threaded ones as the crankshaft pulley holes are threaded

4. Install Driveshaft (Shaft End). Insert driveshaft half (Shaft half with 4 bolt flange yoke against crankshaft pulley adapter). This 4 bolt flange yoke bolts to engine crankshaft pulley adapter (P/N 02979238) with four 7/16" - NC X 1-1/4" bolt (P/N 02976344 bolt & 00022200 lockwasher). The Complete driveshaft asy (P/N 02973712A) is a two piece shaft and tube design. When installing it note that when the shaft and tube are slid together they must be timed at the universal joints.

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Pump - Driveshaft - Hyd tank

5. Install pump Mount Weldment. (P/N 108423) Bolt the pump mount weldment to the front of the tractor where the factory front casting was removed. The pump mount weldment will bolt to the same holes as the casting did. The driveshaft will be sticking through the front of the tractor. (See Figure 1 & 5)

6. Install Driveshaft (Tube End) The Tube end of the driveshaft will have a splined clamp yoke on it. When installing the tube end of driveline the universal joints of each end **MUST** be aligned / Timed (See Figure 1 & 5). Driveshaft P/N 02973712A

7. Install Hydraulic Pump (Pumps to operate Mower Motor). Install the Pump (single pump for only one wing. P/N 702717) Align the splines of the pump shaft with the splines of the driveshaft yoke. Push the pump on till the pump is seated into the Splined yoke. **MAKE CERTAIN** that the splined yoke is not on the pump shaft so far that it will rub the pump housing, there must be a gap. If the gap is OK tighten the flange yoke bolts until the clamp yoke is secures to pump shaft. Slide the pump into the pump mount weldment until the flange of pump is seated into center hole on mount. (See Figure 1 & 5)

8. Install Pump Retaining Bolts. Install the two bolts that retain the pump to the pump mount weldment and tighten them. (See Figure 1 & 5)

Figure 2

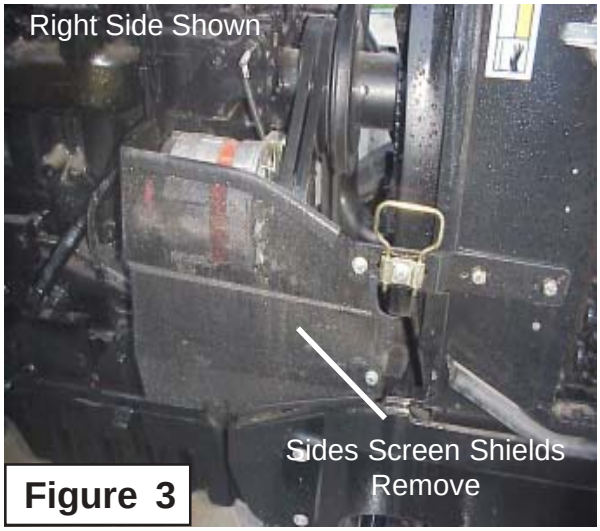

Figure 3

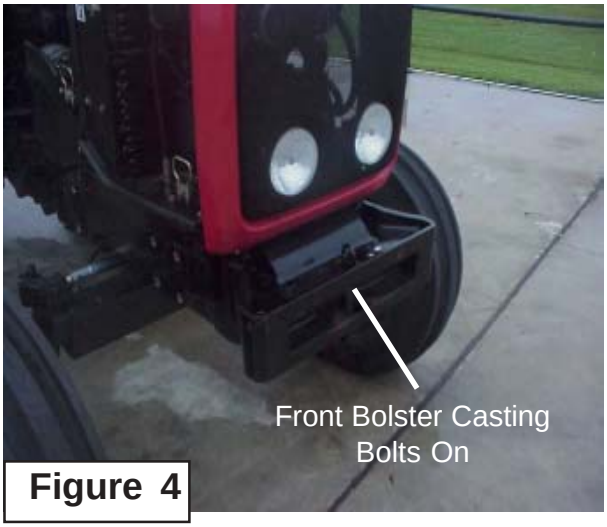

Figure 4

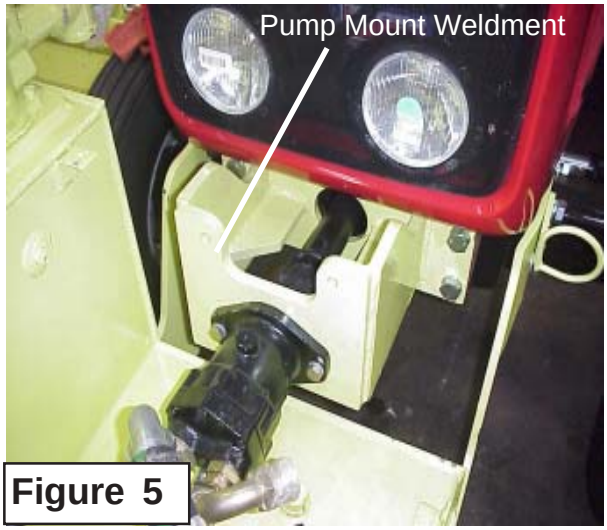

Figure 5

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9. Install Tank Mount Plates**.** The tank mount plates have a LH (P/N 02977222 LH) & RH (P/N 02977238 RH). These bolt to the side of the tractor in the existing bolts of tractor frame. These holes will have plastic plugs in them that will have to be removed (See Figure 6). Bolt the Tank Supports to the side of the tractor, note there is a LH & a RH side . The mount plates will also have hose rings (P/N 02978281) bolted to them, use longer bolts to bolt hose rings on. The LH side hose ring (Shown in Figure will be used on the RH side bolted to the Mainframe support weldment when mounting the Single Wing Model. The LH and RH bolt on the same, DO NOT tighten the tank support weldments to tractor frame yet.

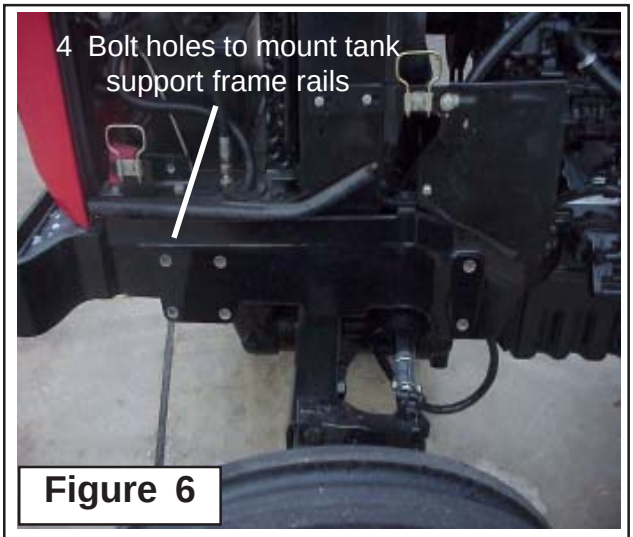

Figure 6

10. Install the Hydraulic Tank. The Tank assembly is in the common parts crate which is ordered with the unit , crate number will vary depending on single or dual wings. The tank will bolt between the support frames (See Figure 8). There is a bumper that bolts across the front of the tank, it bolts to the tank support rails (See Figure 9). After all the components are installed with all the bolts started the tank support rails can be tightened to the tractor frame. The bolts mounting the tank to the support rails can be tightened and the bolts connecting the bumper to the tank supports can be tightened. NOTE: the tank will have more fittings and openings than needed for a single wing model, this is because the same tank is used for the dual wing models as the single wing modes. Some of these opening will remain plugged or capped. (See Figure 8, 9 & 10).

Figure 7

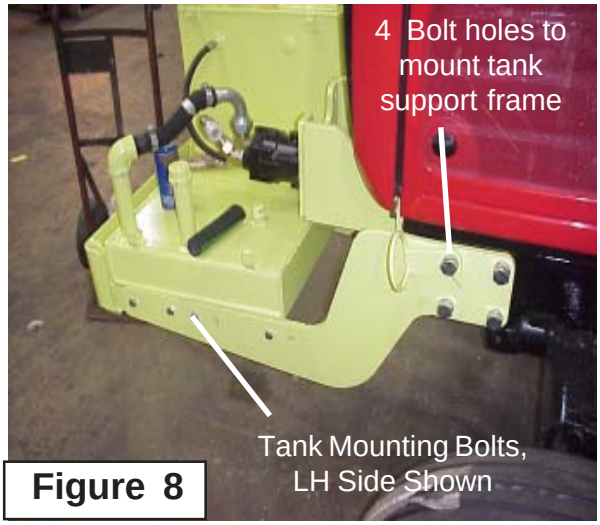

Figure 8

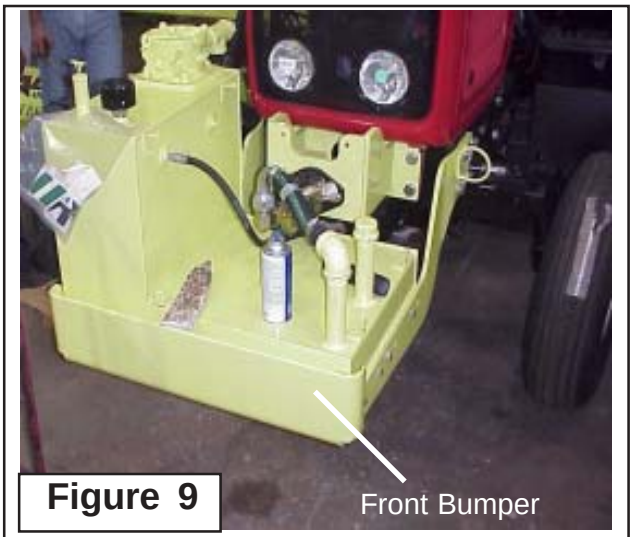

Figure 9

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Pump - Driveshaft - Hyd tank

11. Prepare Pump Fittings DO NOT remove any caps or plugs on hydraulic hoses or connections until you are connecting them, this will keep dirt out. The Pump will need to be prepared for connecting the hoses. There are fittings that must be changed.

The Fittings in the pump should already be installed when you receive it from the factory (See Figure 10). The Pressure Out Port to Wing from pump fitting will need to be change to a 90 degree elbow fitting (See Figure 10). One of the Two large caps on the tank suction ports will need to be replaced with an elbow fittings and hose barbs It is best to use the most outward opening (See Figure 10). Coat the fittings that screw into pumps and tank with a pipe sealer (NOT Teflon Tape), do not put excess sealer on OD of fittings and none on ID of fittings (See Figure 9). Install the elbow . The Suction hose will need to be cut to length (See Figure 11), Install the hose onto the pump, using clean and proper oil pour oil into the sution hose so it will run into the pump, this will ensure the pump does not start up dry. IMake certain that you have installed the hose clamps on the suction hose, install the other end of the suction hose onto the hose barb of the tank elbowTighten the Hose clamps on the suction hose on both ends (See Figure 11).

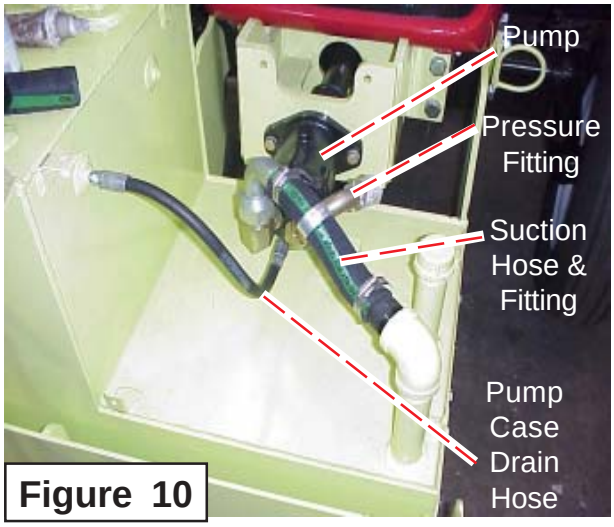

Figure 10

12. Install the Pump Case Drain Hose. The pump case drain hose connects to the tank, there are two fittings on the tank that the case drain can connect to because the same tank is used on the single wing model as the dual wing model. The case drain hose can connect to eather one and the other will remain plugged. showh here we connected to thew front one (See Figure 10, 11 & 12). make certain tos use a pipe sealant on pipe fitting (Do not use Teflon tape) Tighten the hose fitting now.

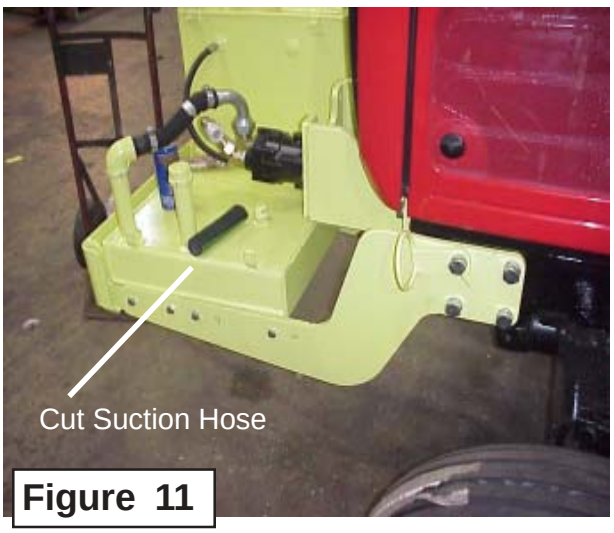

Figure 11

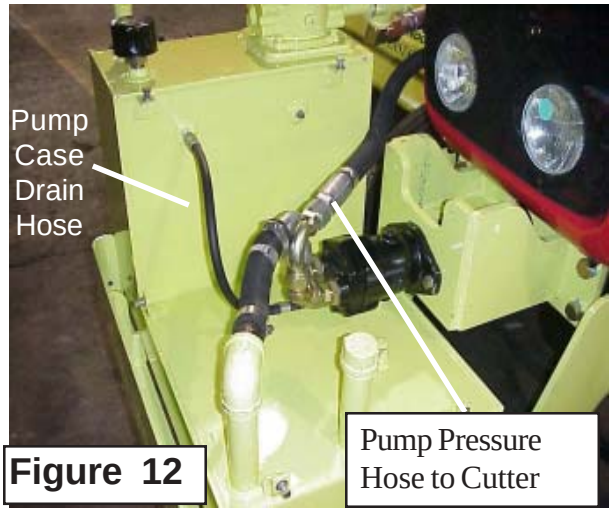

Figure 12

Figure 13

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13. The Tank Return Filter & Hose Fitting. The return filter is located on top of the tank (See Figure 13). There is a Tee fitting that screws into the back side of the filter housing (See Figure 14). This is for the Oil return hose from the cutter housing. The fitting should be a Tee as shown with a plug in one end of the Tee. This is because the same tank is used on the dual wing and the single win. If this Tee is used leave one end plugged (See Figure 14). The Return hose has a straight end at the filter return, the elbow is a separate fitting that screws into the Tee. The other end of this hose will have 90° fitting on the hose (See Figure 15, 16, 19 & 20). Note the blue plastic tie on the return hose in figure 14.

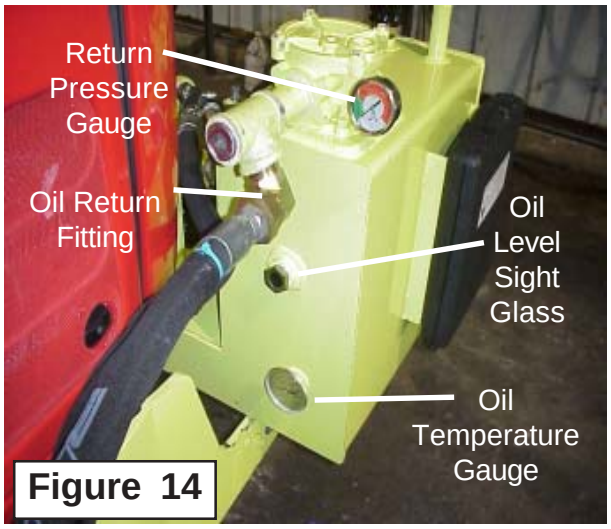

Figure 14

14. Connect Motor Pressure Supply Hoses to Pump. The Pump has pressure hose. The fitting on the Left Side (Left side of Tractor) is the pressure supply for the RH Wing Motor. The hose for the RH Wing should be marked with a red plastic tie on it. Connect the pressure hose at the pump now, this will be the strait fitting on the end of the hose and connect to the bulkhead fitting on the frame bracket, this end of the pressure hose has a 90° fitting. This hose will run up and across tank to the right side of tractor. This hose will run along side the return hose to the tank (See Figure 15, 16, 19, 20 & 21). Do not connect the pressure hose to the frame hose bracket until it has been run through the sleeving with the return hose, see step 15.

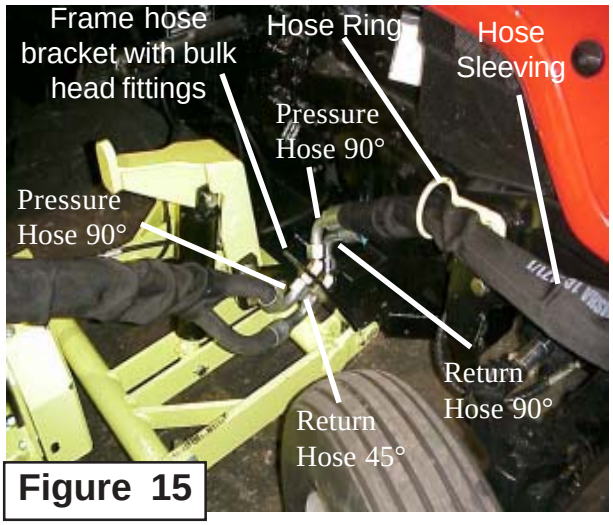

Figure 15

15. Connect Tank Return Hose. Connect the return hose to the tank return bulk head fitting on frame (See Figure 15). Run the return and pressure hose through a piece of sleeving (furnished in kit) then run the two hoses through the hose rings. **MAKE CERTAIN** you mark which hose is connected to the pump for pressure and which is connected to the return filter assembly for return, this is important. Connect the two hoses to the frame hose bracket bulk head fittings (See Figure 15). The pressure hose from pump will always connect to the top fitting and the return hose will connect to the bottom fitting on this bracket (See Figure 15, 19, 20, & 21).

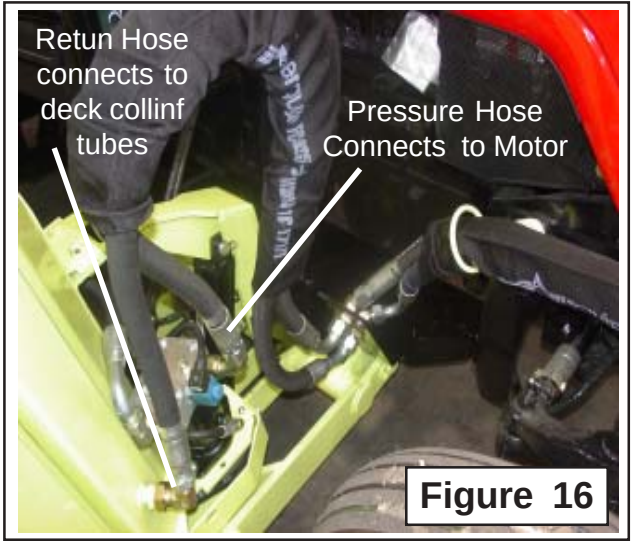

Figure 16

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16. Hose Connections at head. The hose connections to the mower motor and cooling tubes is shown here as a reference to show that these hose **MUST NOT** be mixed up and connected wrong. This is why it is so important to mark the hoses so you always know which is pressure and which is return. If these hoses are connected wrong (pressure hose to cooling tubes) the cooling tubes and/or other components will be damaged. The cooling tubes will be expanded out of shape from the excess pressure forced through them (See Figure 19). The hose fittings at the motor pressure and the return hose has a straight end at fitting. The Pressure hose has a 90° fitting at the bulkhead fitting and the return hose has a 45° fitting (See Figure 15, 16, 19, 20 & 21)

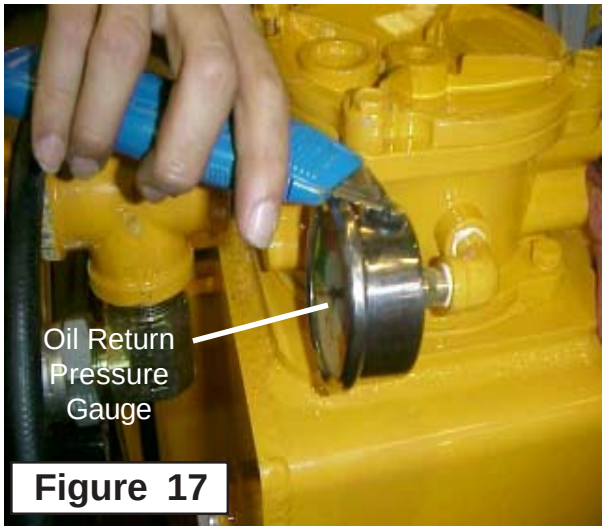

Figure 17

17. Install Return Filter Pressure Gauge. The return filter pressure gauge screws into the side of the return filter housing. This gauge is a low pressure gauge that is marked in green and red areas. (See Figure 17). The Oil Pressure return gauge has a rubbery tip on top of it, the tip till have to have the tip of it cutoff. Using a utility knife (or suitable knife) cut the tip off now (See Figure 17). This will need to be done before unit is run.

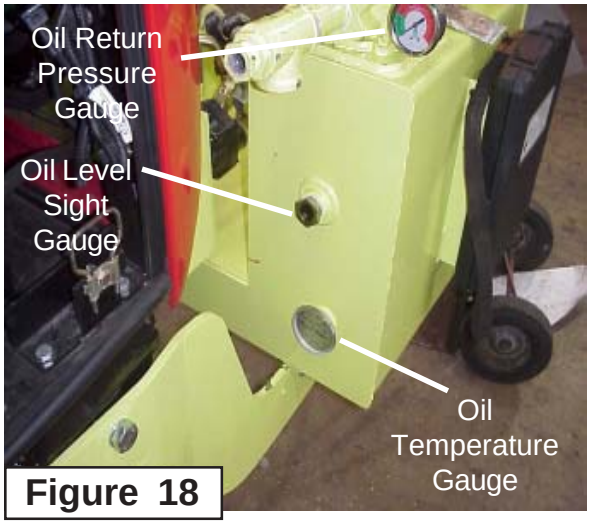

Figure 18

18. Install the Oil Level Sight Glass. The Oil Level sight Glass screws into the Hydraulic tank and may already be installed into the tank when it is received from the factory. This is to be covered with oil when tank is at operating level. (See Figure 18)

19. Oil Temperature Gauge. The oil temperature gauge is a mechanical gauge that measures the temperature of the oil in the tank. This gauge may be installed into tank when received from factory or it may need to be installed. Install as shown (See Figure 18).

20. Head Hose Connections. The hose connections for the head are shown here as a **reference only.** The wing hinge mounts and motor cut off switches **must be installed before** the hoses can be connected to the head. See the section 4 for mounting the head and the cut off switches.

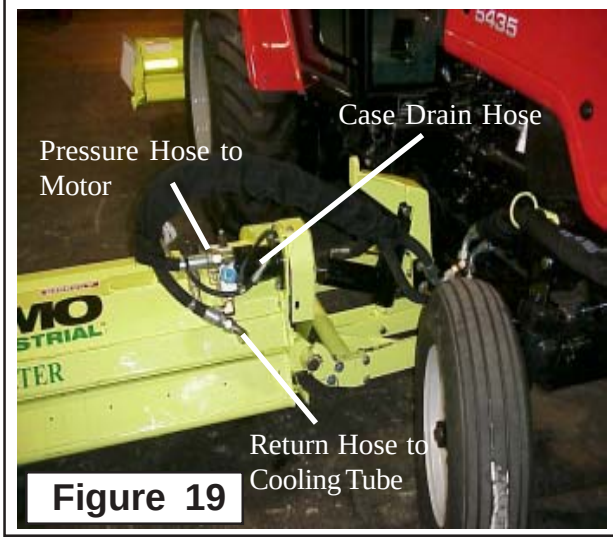

Figure 19

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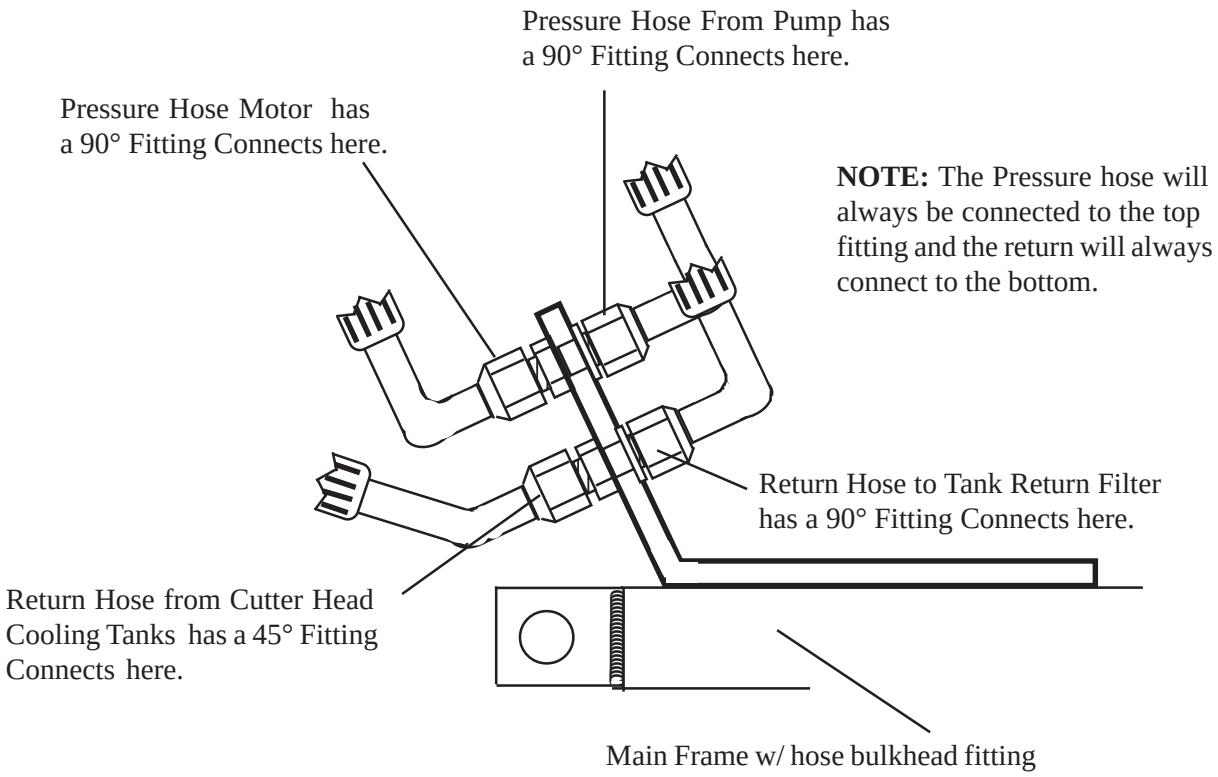
Pump - Driveshaft - Hyd tank


Pressure Hose From Pump has
a 90° Fitting Connects here.
Pressure Hose Motor has
a 90° Fitting Connects here.
NOTE: The Pressure hose will always be connected to the top fitting and the return will always connect to the bottom.
Return Hose to Tank Return Filter
has a 90° Fitting Connects here.
Return Hose from Cutter Head
Cooling Tanks has a 45° Fitting
Connects here.
Main Frame w/ hose bulkhead fitting

RH side of tractor looking from front to rear of tractor

Single Wing Shown, Dual Wing has metal cross over pipe with a Tee in it for the return.

Figure 20

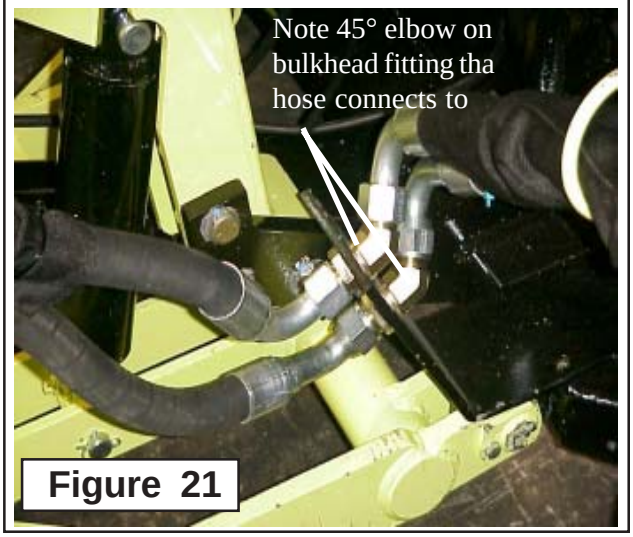


Figure 21

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Section 4

INTERSTATER

Massey Ferguson

5435 , 5445, 5455 & 5460
Cab - 2 Wheel Drive
Standard Hood

Wing Mower Installation

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Wing Mower Installation

Wing Cut Off Switch:

1. Assemble Brackets & Magnetic Switches. Shown below will reference to a dual wing model. a single wing will connect the same with half as many parts. Locate the Magnetic switch mounting bracket, dual wings there will be two of these (See Figure 1). If Dual wings the two brackets will have the switches mounted on the opposite side (See Figure 2). Once these have the switches bolted on lay the brackets aside for now. (See Figure 20)

2. Assemble Magnetic Switch Activators. This magnetic switch activator has a magnet inside and a cover that must be installed (See Figure 4). There are brackets that these bolt to. With dual wings there is a LH and RH bracket. Bolt the Magnetic activators to the brackets (See Figure 5) LH Bracket Shown). Note there are two sets of mounting holes. In figure 5 the set that have the bolts through them is used to shut wing off at 45 degree up. If the other set of holes are used wing mower will shut off at 90 degrees up. The 45 degree setting is recommended for standard applications.

3. Install Switch Brackets & Head Mounting Brackets. Use a hoist to lift the Wing Mower and position it for mounting. DO NOT get under Mower while lifted on a hoist (See Figure 6). Mower is only be positions so that switch brackets and hinge brackets can be installed to head, this must be done before mower can be mounted to lift frame.

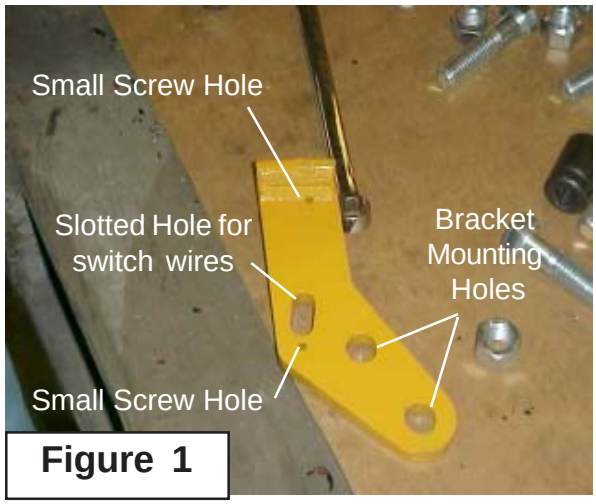

Figure 1

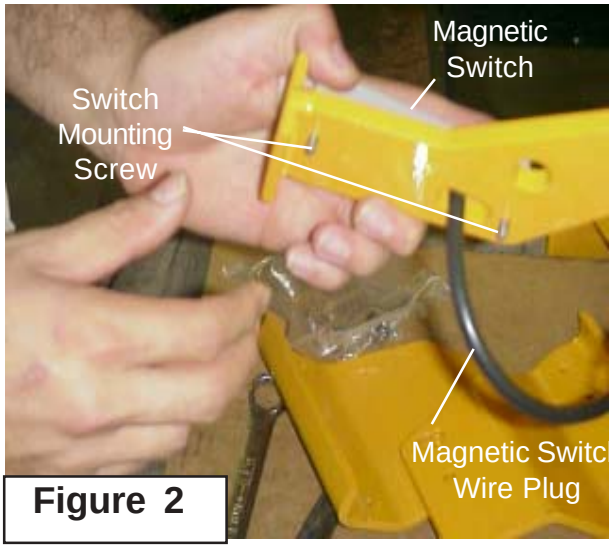

Figure 2

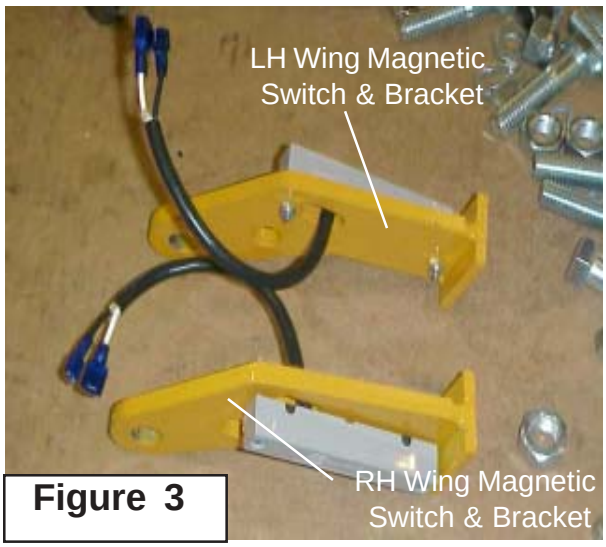

Figure 3

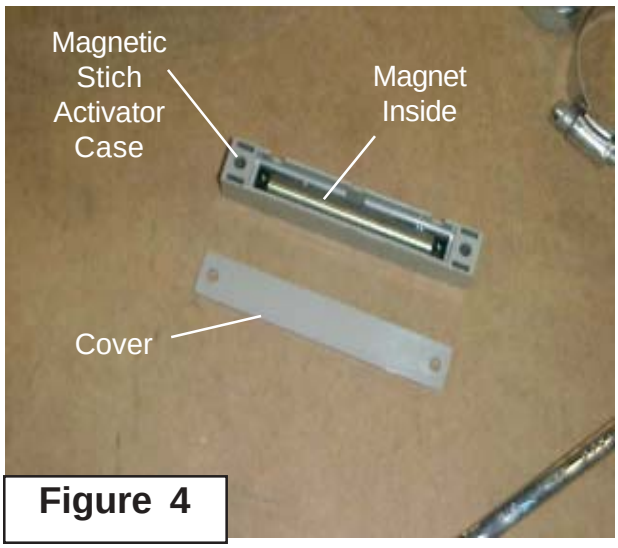

Figure 4

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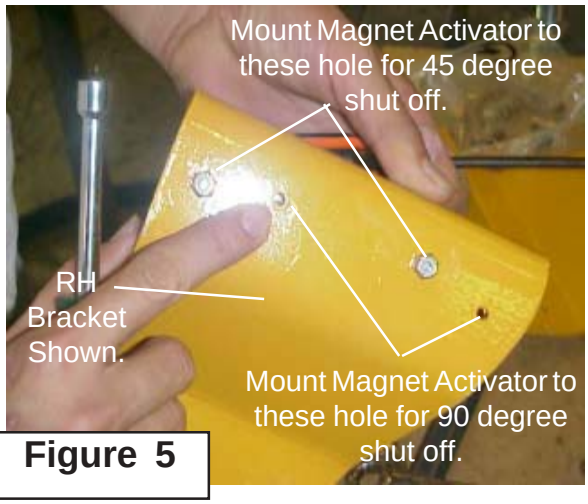
Wing Cut Off Switch: (continued)

4. Install Mower Rear Mounting Brackets & Magnetic Switches. The Mower Hinge Link has a LH & RH (See Figure 7). These brackets will slide over the Hinge Pin which is bolted to the mower deck at the factory. There are two Threaded holes in the end of the hinge pin (See Figure 7) These two holes serve dual purpose. First they hole the hinge bracket on and the Magnetic Activator Bracket on. Some times you will need to loosen the Hinge pin to align the two holes so the bracket will bolt on. (See Figure 8 & 9). Tighten the two mounting bolts in to the hinge pin. The Hinge bracket will still turn free.


Mount Magnet Activator to these hole for 45 degree shut off.
RH Bracket Shown.
Mount Magnet Activator to these hole for 90 degree shut off.
Figure 5

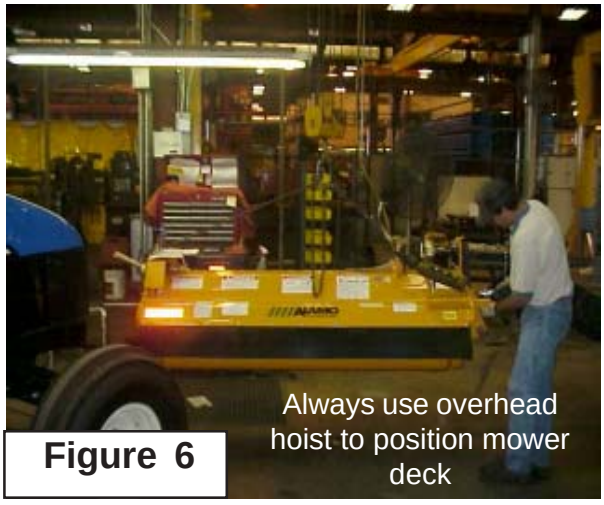


Figure 6

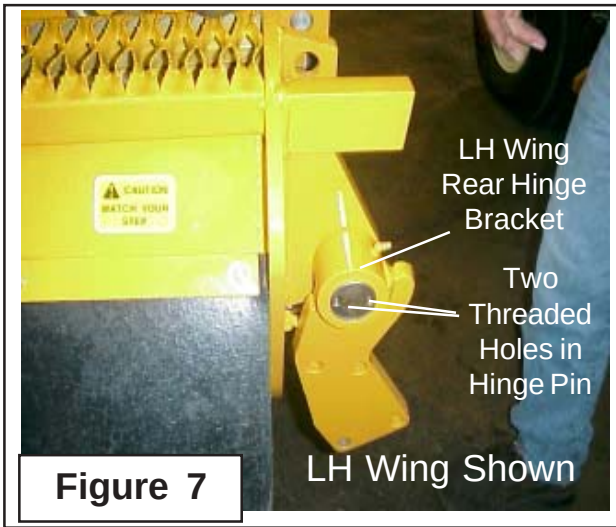


Figure 7

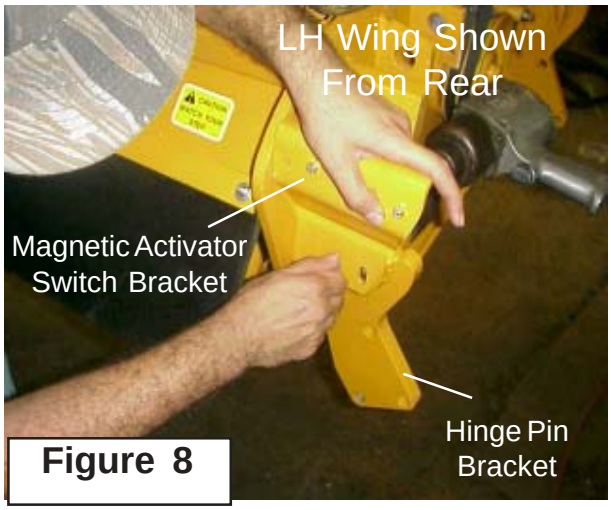


Figure 8

Figure 9

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Wing Mower Installation

5. Install Mower Front Mounting Brackets. The Mower Hinge Front Bracket has a has a LH & RH (See Figure 10). These brackets will slide over the Hinge Pin which is bolted to the mower deck at the factory. This bracket will be bolted to the Lift frame with four bolts. This hinge Pin WILL NOT have threaded holes as the rear hinge pin did.

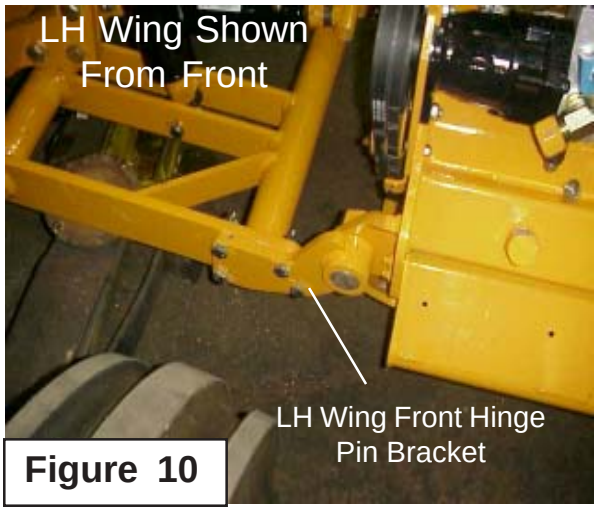

Figure 10

6. Install Wing Mower to Lift Frame. Using the over head hoist position the Mower Deck (See Figure 10) to where the front hinge bracket will align with the lift frame. Install at least two of the mounting bolts and snug them down.

7. Install the wire harness to wings. The Wire harness will have a lead to each wing. These can be determined by the length, the longer lead will go to the left wing. There is apiece of square tube welded to the lift frame on the back for the wire harness to be run through (See Figure 11). The wire harness will be run down and under the round bar of lift frame. Leave harness here for now.

Figure 11

8. Install Magnetic Switch Pickup & Bracket as well as the rear hinge bracket. The Rear hinge Bracket will install similar to the way the front does, but not the same because the Magnetic switches and brackets bolt on with it. Before installing the rear Hinge bracket locate the magnetic Switch Bracket (See Figure 12). There are two spacers about 3/4" long that must be installed between the magnetic switch bracket and the hinge Bracket (See Figure 12), Also the wire harness must be run between these two spacers and between these two brackets (See Figure 13 & 14). Install the remaining two bolts and tighten all the hinge bracket bolts, this will include the front hinge bracket bolts. (See Figure 21)

Figure 12

9. Plug Magnetic Switch into Wire Harness. The wire harness will have two wires coming out of the loom near where they go over the magnetic switches with butt connectors on them (a black wire and a black wire with white stripe). These wires are to be connected to the magnetic switch black wire and the black wire with white strip of the magnetic switch (See Figure 14) . Plug these together now and continued to run wire harness up behind the hinge and on up to the mower decks motor. (See Figure 21)

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Wing Mower Installation

10. Connect Tilt Cylinder to Mower Deck. The Tilt Cylinder connects to the mower head (See Figure 15 & 16). Note you will need to remove the belt guard to connect this cylinder so you will have room for the cylinder mounting pin to be installed (See Figure 16). When connecting the cylinder, the grease fitting on the rod end must face up, the locking collar on the cylinder must face up and be tightened on rod end. The RH Wing and the LH Wing will mount the same. Install the RH wing the same as the LH wing . Reinstall Belt Guard.

11. Install Wire Harness to Motor Solenoid. The thumb nut on top of the solenoid will allow the solenoid to be turned to different direction if needed. (See Figure 17 & 21) The Wire Harness to the head will have a plug at the end that connects to the wire harness to the electric cut off switches located in the cab.

Figure 13

Figure 14

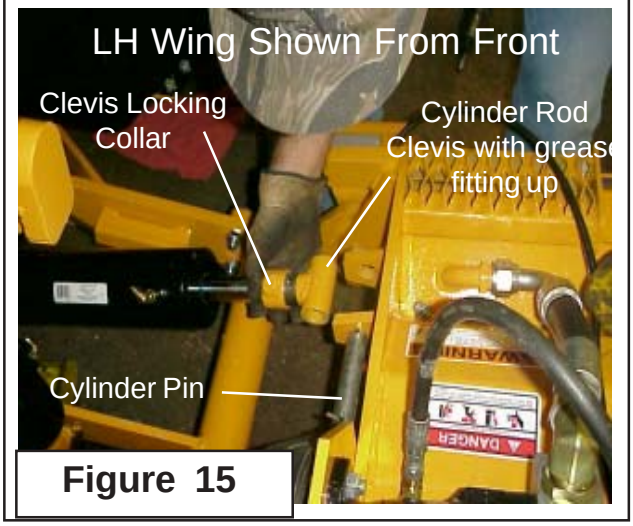

Figure 15

Figure 16

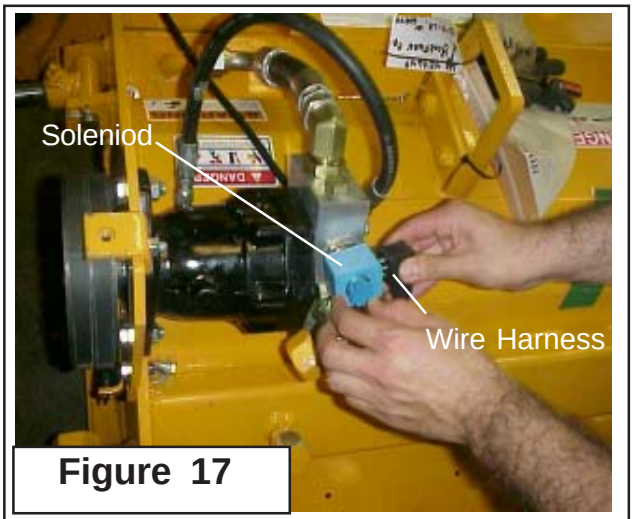

Figure 17

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Wing Mower Installation

Connecting Mower Motor Hoses:

1. Connect Motor Pressure & Return Hoses to Mower Deck. Connecting the Motor Hoses is very critical that they a re connected to the correct fittings, If these hose are connected backwards it will damage the cooling tubes on the deck, the cooling tubes cannot take the pressure it will make them swell up and bulge.

IMPORTANT FACT. When connecting the hoses to the fittings on the mainframe crossmember remember the top hose is always thew pressure hose and will only connect to the motor, never the cooling tubes on the deck. The bottom hoses are the return hoses and will always connect to the cooling tubes on the mower deck. (See Figure 18 & 19). The RH wing will connect the same as the LH mower (Shown). IMPORTANT. On the RH Wing the top hose is pressure and connect to the Motor and the bottom hose connects to the Tank return.

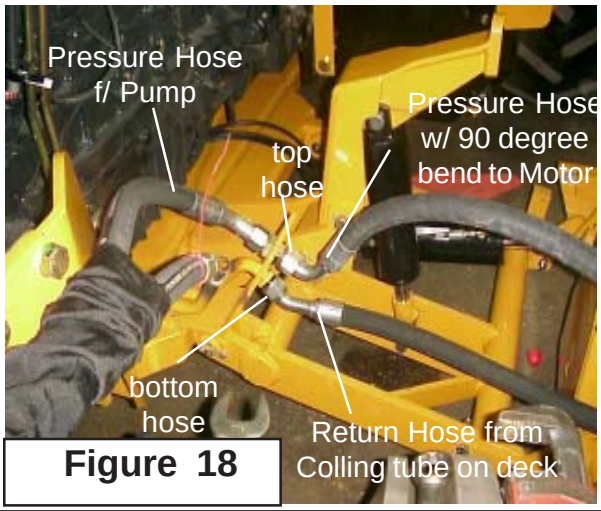

Figure 18

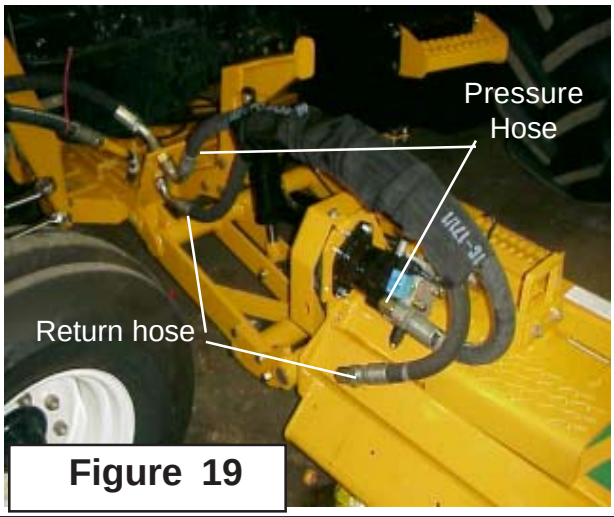

Figure 19

2. Double Check all Hose Connections. Before operating the mower make certain all hydraulic hoses are connected correctly. IT IS MOST critical that you make certain NO HIGH PRESSURE hoses are connected to the wet tubes of the mower deck, The wet tubes will expand (swell up) and be damage if the High Pressure hose is connected to the deck wet (cooling) tubes. See Figure 21, 22, 23, 24, 25, 26 & 27. Looking at all these figure before going on to next step is important.

3. Install Pump Cover. The front pump cover will bolt to the tank, this cover will cover pumps and all hoses and/or fittings connected to the pump (See Figure 20). Set the cover down over the pumps. Align the hove in cover with the tabs welded to the tank (See Figure 20).

Figure 20

4. Install Rear Mower. Go on to the Install rear mower section which will also include the Initial Start up procedures. DO NOT START Tractor until you have completed the initial start up section.

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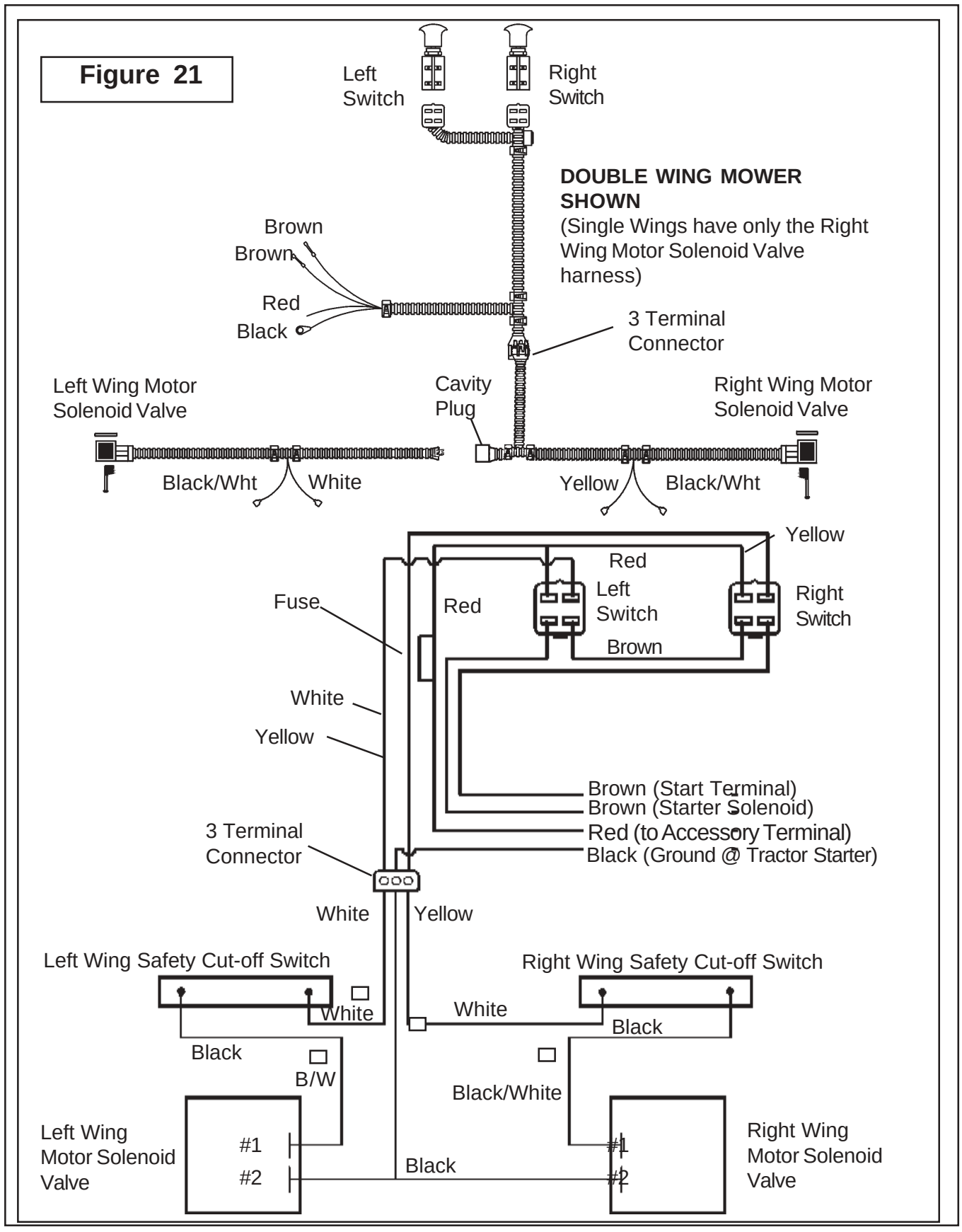
Wiring Harness Schematic - Dual Wing



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Motor Control Switch - Single Wing

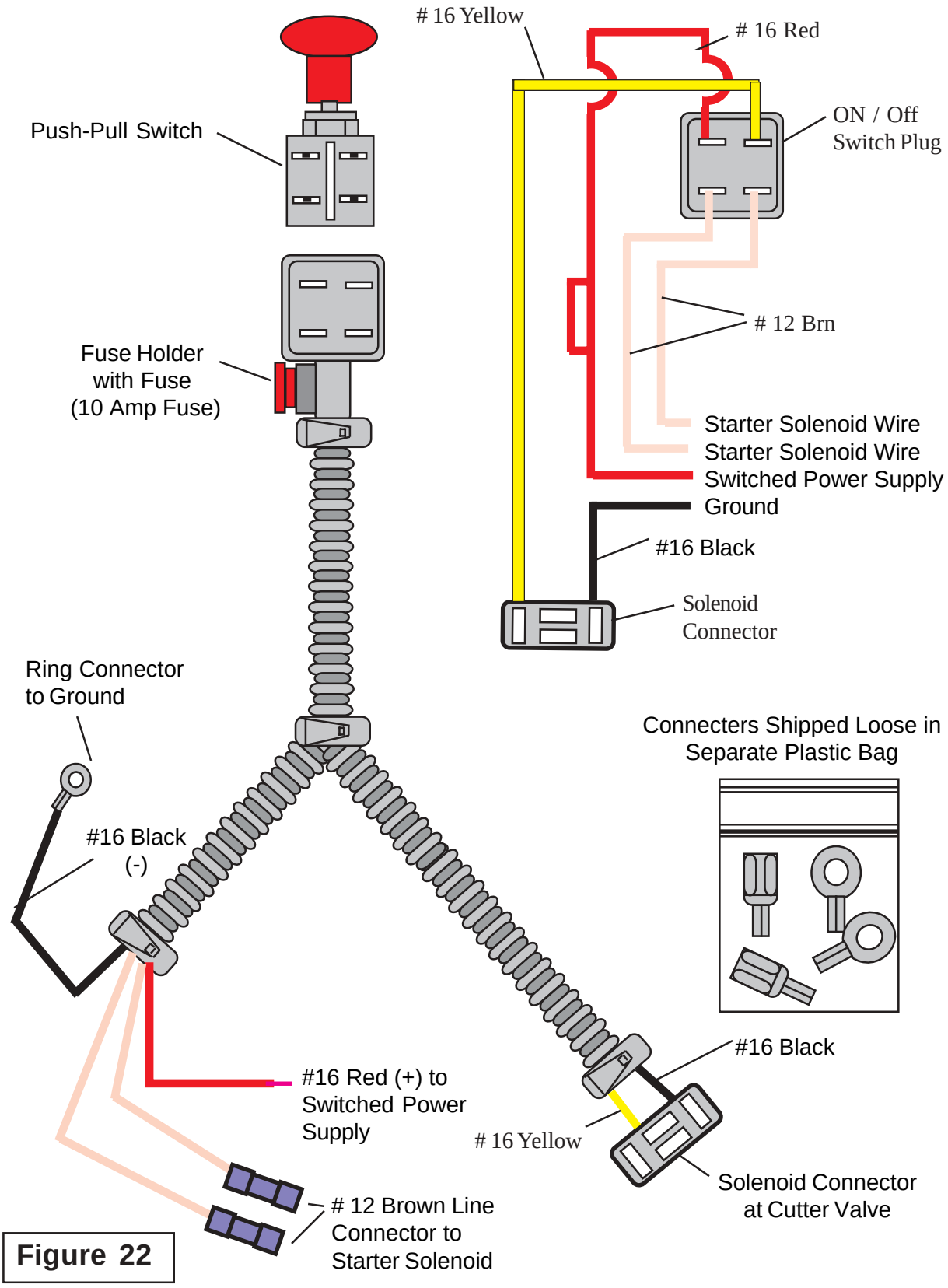

Figure 22

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Wiring Harness

Wire Harness Connections:

1. <u>Disconnect Battery Cable.</u> Disconnect the battery cables before attempting any of the electrical connections, this is to protect the tractor electrical system as well as the mower electrical connections. Electrical connections should never be attempted with the battery connected. Use Ohm Meters to test electrical connections.

Figure 23

2. <u>Motor Control Switch</u>. The wiring harness schematic list the plug, wire type, wire color, and where the wires connect. The wire harness will be shipped complete. The wire harness will need to be connected correctly or it will not function properly. DO NOT operate any unit that is not functioning correctly (See Figure 22 & 23).

3. <u>Connect Starter Solenoid Wires.</u> The starter solenoid wire are the two brown wires. The tractor solenoid activation wire (See Tractor Model Wire Schematic) will need to be cut and rerouted through these two brown wires. Connect the two wires at the starter solenoid (See Figure 22 & 23)

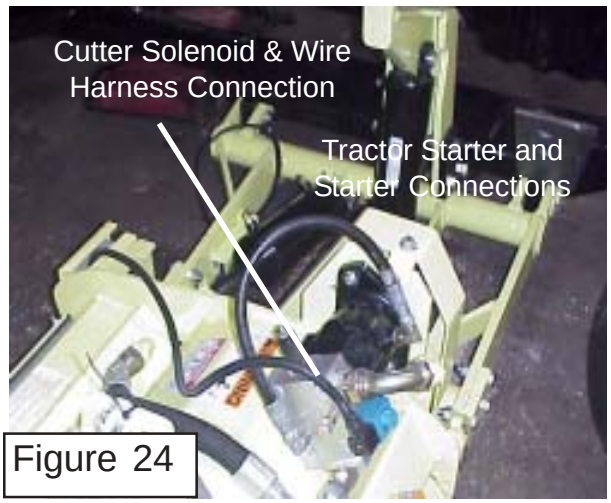

Figure 24

4. <u>Connect Wiring to Cutter Valve Solenoid.</u> The plug for the cutter valve solenoid will plug onto the solenoid without any modifications to plug or solenoid (See Figure 24)

5. <u>Connect Cutter switch electrical supply</u>. The red wire to power switch supply will be connected to a power supply that is only active when the ignition key is in the on position. Also make certain that it is connected to source that will not interfere with the switch or that the switch will interfere with other components of the tractor.

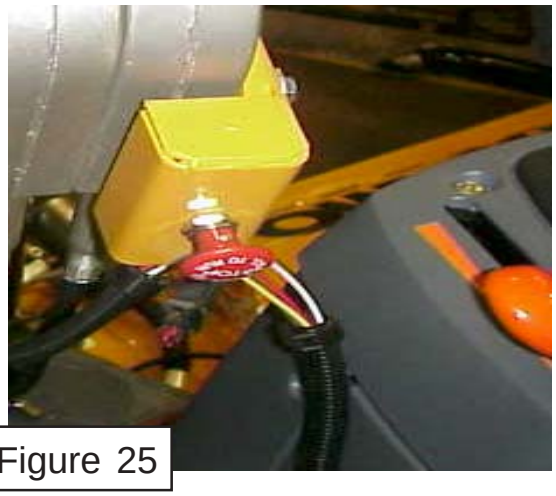

Figure 25

6. <u>Connect the Ground Wire</u>. The ground wire will need to be connected to the tractor where it will have a good uninterrupted connection.

7. <u>Install Motor Control Switch</u>. The motor control switch will be mounted in the cab in a convenient place for the operator. The location of this switch is up to the installer to decide.

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Pump & Motor Hydraulic Schematic

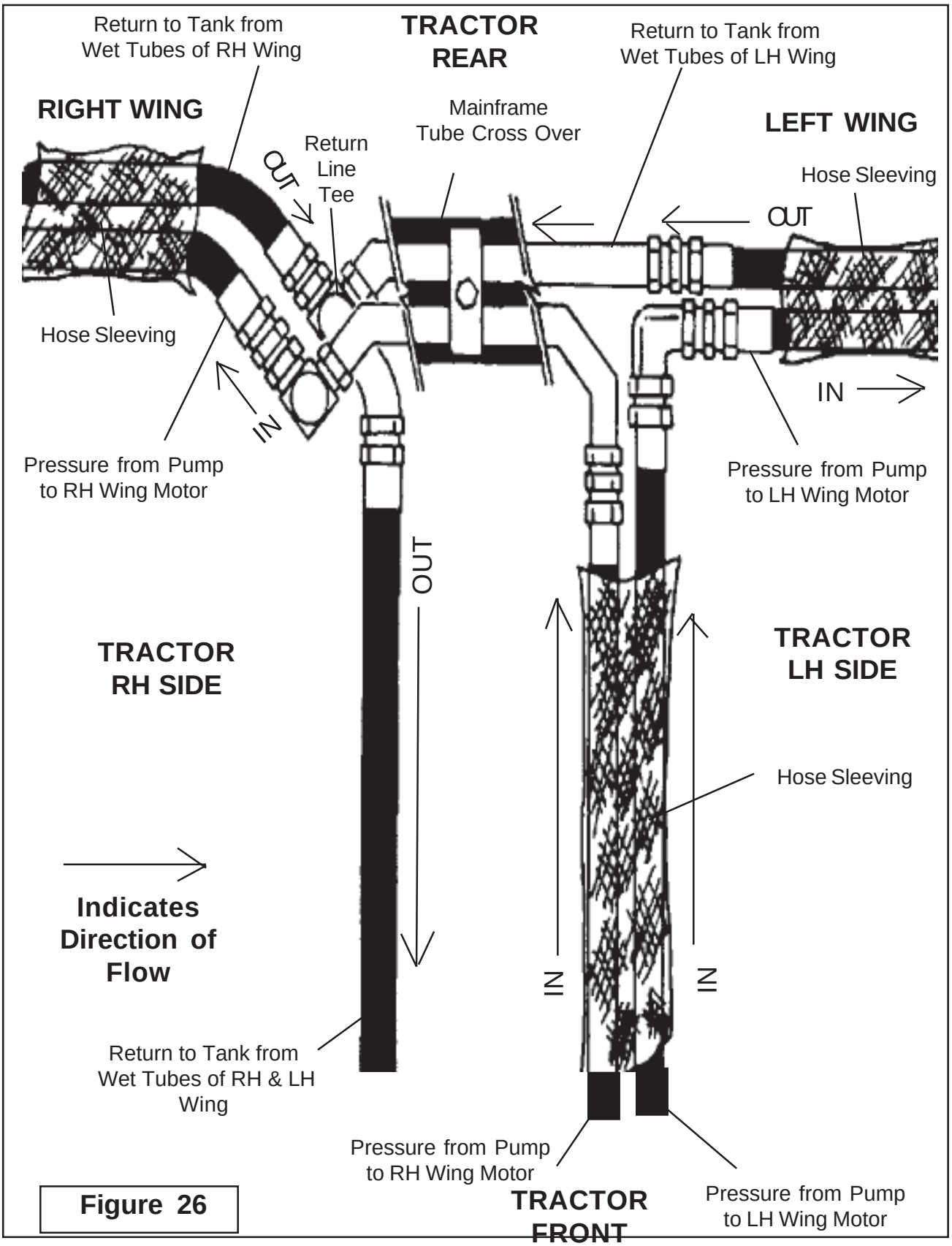

Figure 26

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Pump & Motor Hydraulic Schematic

LEFT WING HYDRAULIC MOTOR SHOWN

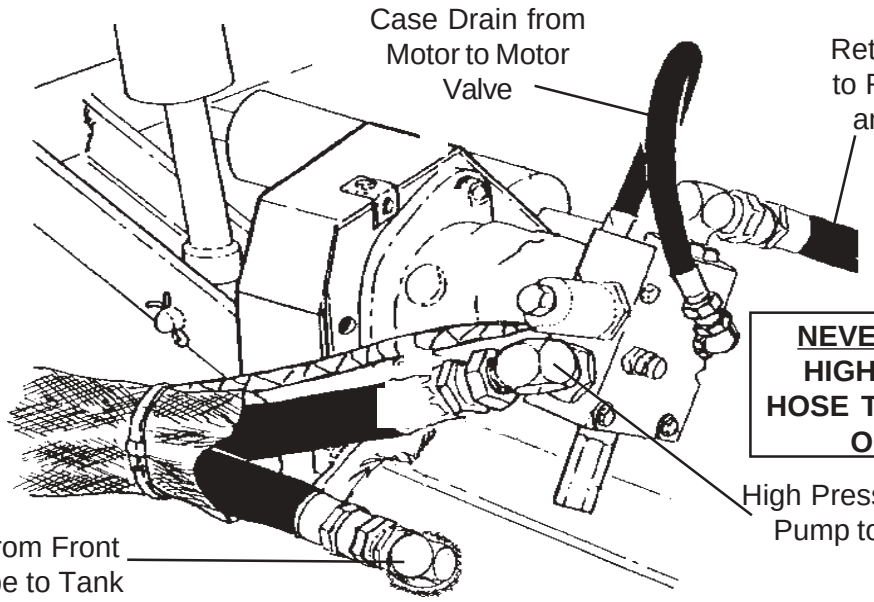
Case Drain from Motor to Motor Valve
Return from Motor to Rear Wet Tube and on to Tank
NEVER CONNECT HIGH PRESSURE HOSE TO WET TUBES ON DECK !
High Pressure from Pump to Motor
Return from Front Wet Tube to Tank

Figure 27

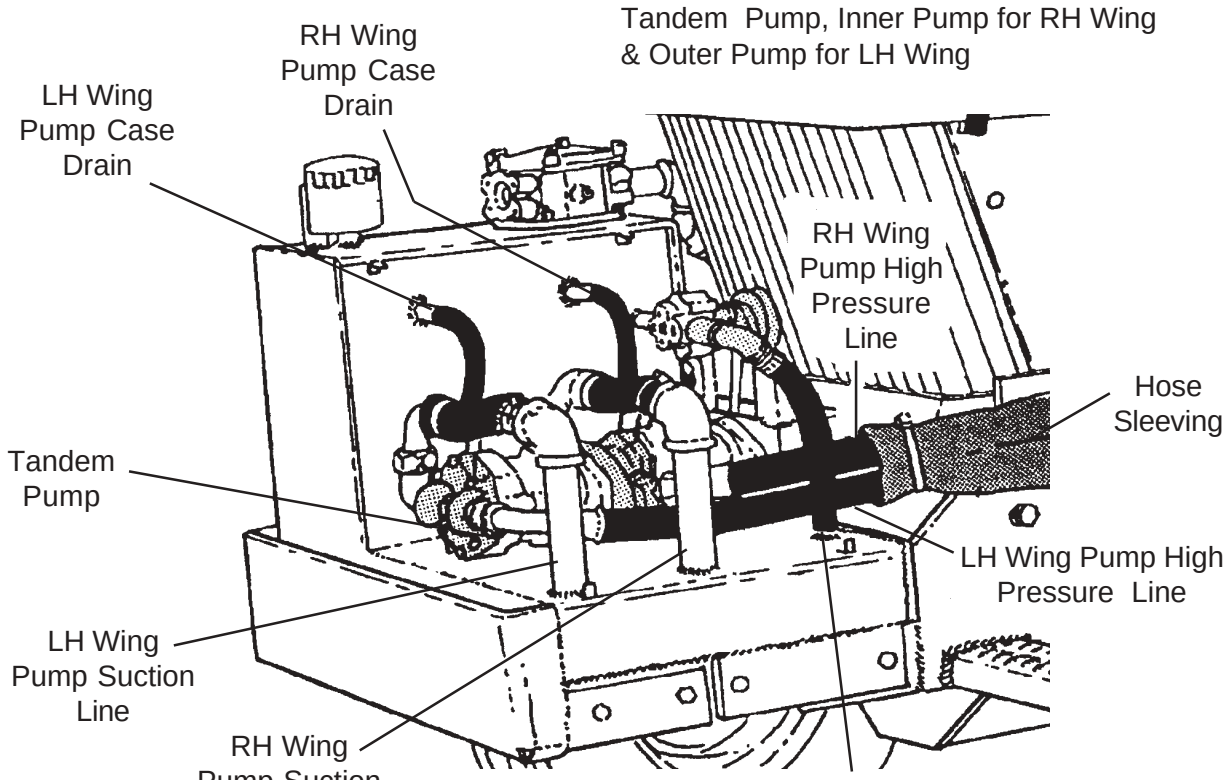
Tandem Pump, Inner Pump for RH Wing & Outer Pump for LH Wing
RH Wing Pump Case Drain
LH Wing Pump Case Drain
RH Wing Pump High Pressure Line
Hose Sleeving
Tandem Pump
LH Wing Pump High Pressure Line
LH Wing Pump Suction Line
RH Wing Pump Suction Line
Cyl System Supply Pump Suction Hose

Figure 28

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Pump & Motor Hydraulic Schematic

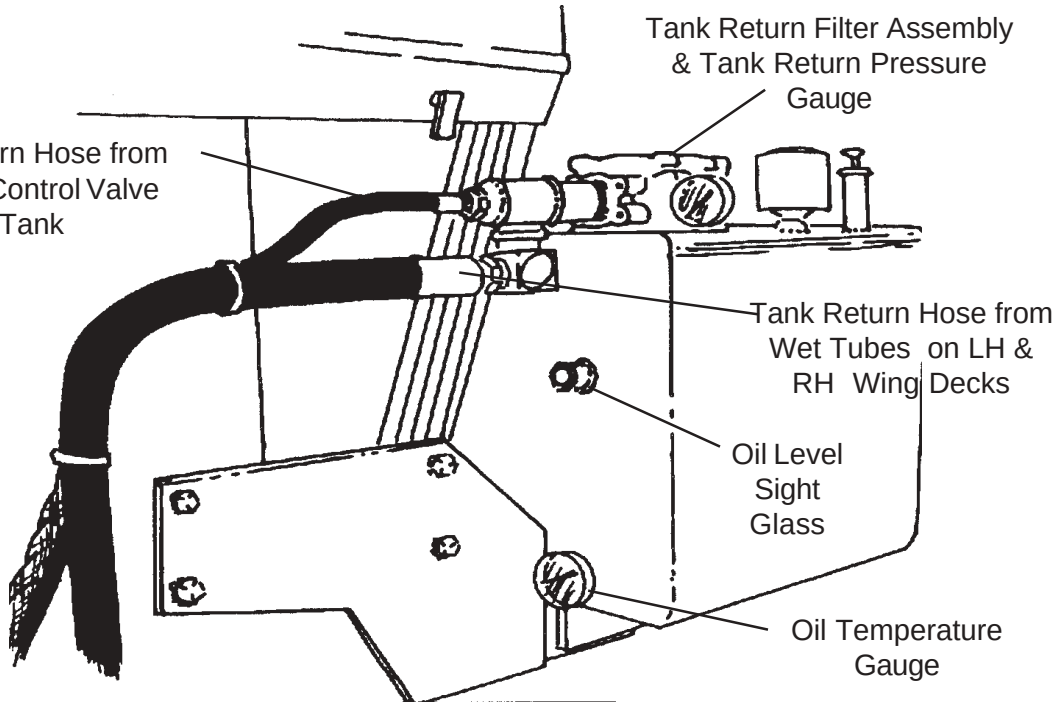
Tank Return Filter Assembly & Tank Return Pressure Gauge
Tank Return Hose from Cylinder Control Valve to Tank
Tank Return Hose from Wet Tubes on LH & RH Wing Decks
Oil Level Sight Glass
Oil Temperature Gauge

Figure 29

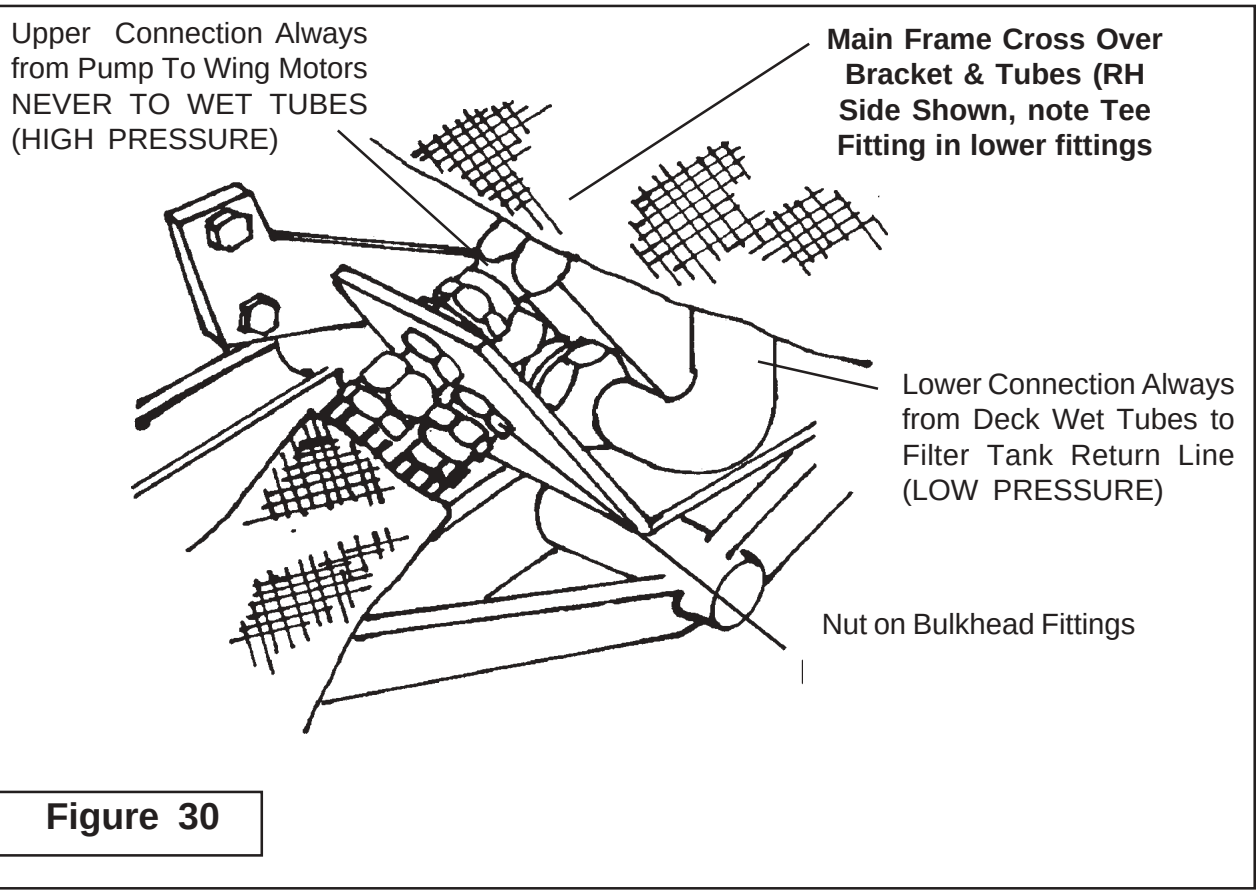
Upper Connection Always from Pump To Wing Motors NEVER TO WET TUBES (HIGH PRESSURE)
Main Frame Cross Over Bracket & Tubes (RH Side Shown, note Tee Fitting in lower fittings
Lower Connection Always from Deck Wet Tubes to Filter Tank Return Line (LOW PRESSURE)
Nut on Bulkhead Fittings

Figure 30

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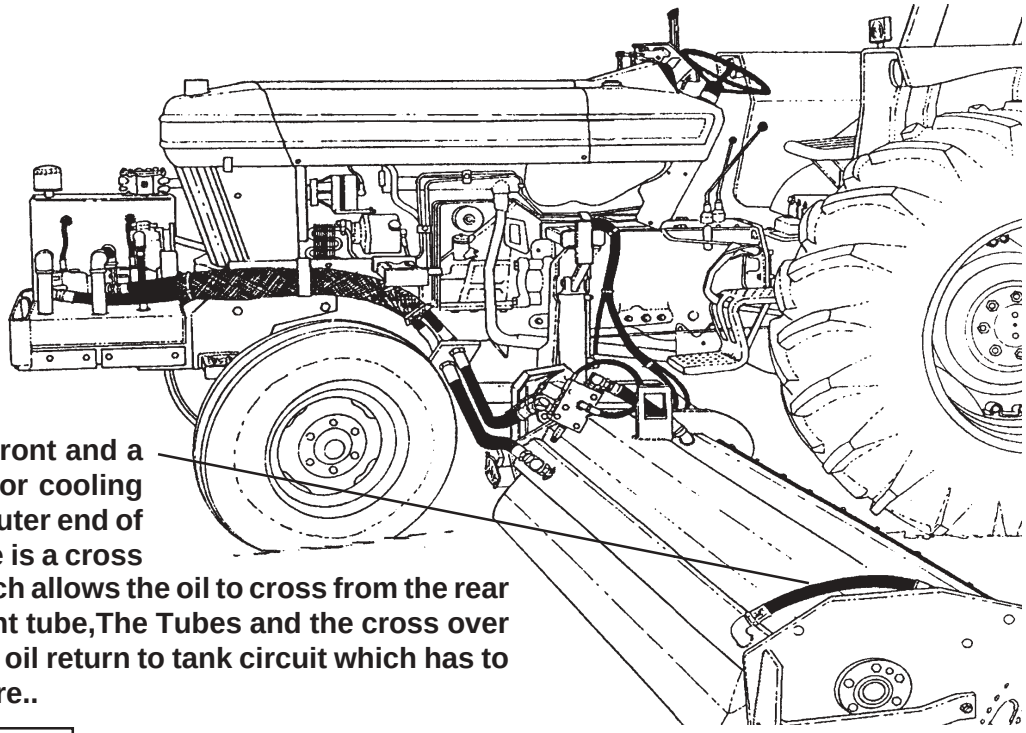
Pump & Motor Hydraulic Schematic



Wings have a front and a rear wet tube for cooling the oil. At the outer end of the decks there is a cross over hose which allows the oil to cross from the rear tube to the front tube,The Tubes and the cross over hose are in the oil return to tank circuit which has to be low pressure..

Figure 31

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NOTES

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Section 5

INTERSTATER

Massey Ferguson

5435 , 5445, 5455 & 5460
Cab - 2 Wheel Drive
Standard Hood

Rear Mower Installation

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Rear Three Point Mower Connection:

1. The Rear Mower is a standard Three Point Hitch mounted mower that is PTO driven through a driveline. It will be sent already assembled with the driveline tied to it. (See Figure 1)

2. Connect Lower Hitch Pins. The lower hitch pins connect to the lift arms of the tractor with click pins, these pins are furnished with the mower. (See Figure 2). It is best to connect the lower arms of the three point first. You can use the lower arms to

3. Connect Upper Hitch Pin. The upper hitch pin will connect to the top three point adjustable Link with a pin and click pin. The Top Link is furnished with the tractor not with the mower. The Top Link is adjustable in length and is used to level the mower. (See Figure 3)

4. Connect Driveline . The Driveline arrive tied to the mower (See Figure 1 & 4). Cut the ties loose from mower. Connect the clutch end of the driveline to the mower, the clutch is retained to tgearbos input shaft by a clamp yoke on clutch hub. Slip the clutch onto the input shaft untill holes in clamp yoke are aligned with the grooves in the inbut shaft. Install and tighten the two bolts and nuts. The QD Yoke end connect to the Tractor PTO.

Figure 1

Figure 2

Figure 3

Figure 4

© 2004 Alamo Group Inc.

Rear Three Point Mower Connection:

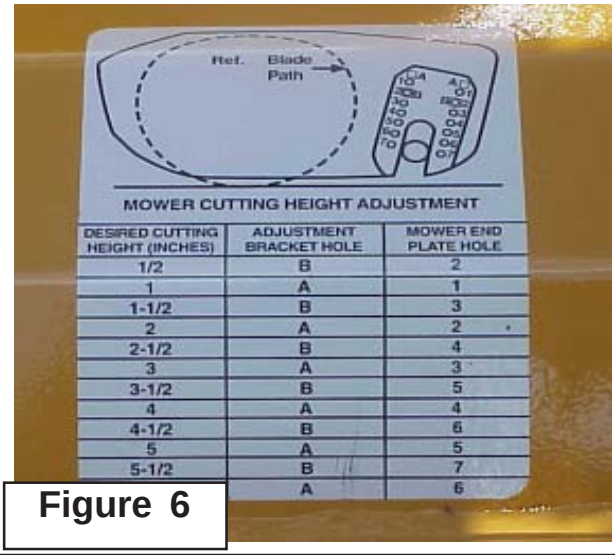
5. Leveling the Rear Mower & Adjust gutting Cutting Height. The Rear Mower is leveled with the top Three Point Link. The Cutting Height is adjusted by moving the Roller up or down by change the bearing bracket mounting hole. The is a decal on the deck next the Operators/ parts manual cannister (See Figure 5 & 6)

6. Rear Mower Completly Connected. With the rear mower completly connected. Check all Oil levels and grease mower components (See Figure 9) before running mower. Also DO NOT start tractor if the rest of the assembly to the interstater is not done. Make certain that all hoses, compontents, wiringing is completed and Oil Tank for interstater has been filled with oil.

7. Slip clutch is incorporated in the PTO driveline. It is designed to slip, absorb the shock load, and protect the driveline. It is important that the clutch lining plates slip when an obstacle or load heavier than clutch setting is encountered. Therefore, if the machine sits outside longer than 30 days and is exposed to rain and/or humid air it is important to make sure that the clutch lining plates are not rusted/corroded together. Before using the mower use the following procedure to make sure the clutch will slip and give the overload protection required. (See Figure 8) This is a required step because the driveline has been sitting and may be stuck.

- **A.** Loosen nuts on springs until the springs can freely rotate, yet remain secure on bolts.
- **B.** Attach mower to tractor and start the tractor. Set the engine speed at 1200 RPM.
- **C.** Mark outer plates with marker, paint or any form that will work for you to tell if the compo nents of the clutch slipped.
- **D.** Engage the PTO (approximately one second) and then quickly disengage it. The friction lining plates should break loose (check the mark).
- **E.** Turn tractor off and tighten the nuts on the springs to their original position of 1-5/16" compressed spring length.

Figure 5



DESIRED CUTTING HEIGHT (INCHES)	ADJUSTMENT BRACKET HOLE	MOWER END PLATE HOLE
1/2	B	2
1	A	1
1-1/2	B	3
2	A	2
2-1/2	B	4
3	A	3
3-1/2	B	5
4	A	4
4-1/2	B	6
5	A	5
5-1/2	B	7
	A	6

Figure 6

Figure 7

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Rear Three Point Mower Connection:

8. Slip clutch is incorporated in the PTO driveline. It is designed to slip, absorb the shock load, and protect the driveline. After the first hour of operation, the slip clutch should be checked for overheating. After this first check, the slip clutch should be checked weekly or anytime there is overheating. To adjust the slip clutch, tighten the spring bolts 1/8 (maximum) turn at a time. Bolts should NEVER be adjusted to the point where the springs are compressed solid. Minimum spring length is 1-1/8". The slip clutch should be checked periodically and adjusted to compensate for wear. The lining plates are 1/8" thick when new. Replace after 1/32" wear. If the mower has been idle for an extended period of time, or in wet weather, before operating check to be sure the friction lining plates are not frozen or rusted together. Should this freezing occur refer to the procedure described in the "Seasonal Clutch Maintenance" section on the next page. There are four friction lining plates in the slip clutch. These should be checked weekly for oil or grease, wear, and moisture which could cause corrosion on the drive plates. (See Figure 7)

NOTE: Above information is listed as a reference only and will not apply to mower assembly.

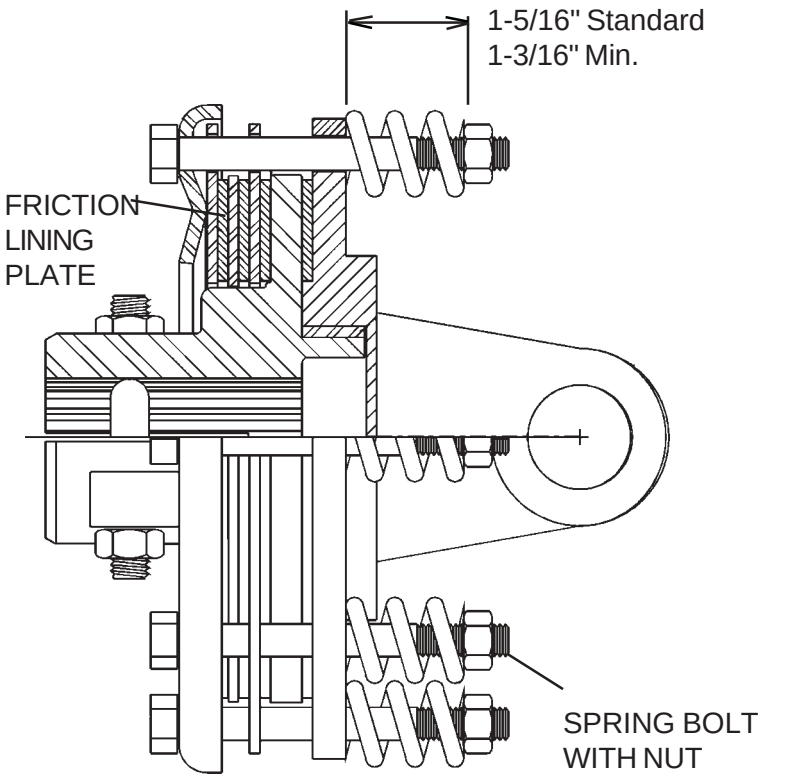

Figure 8

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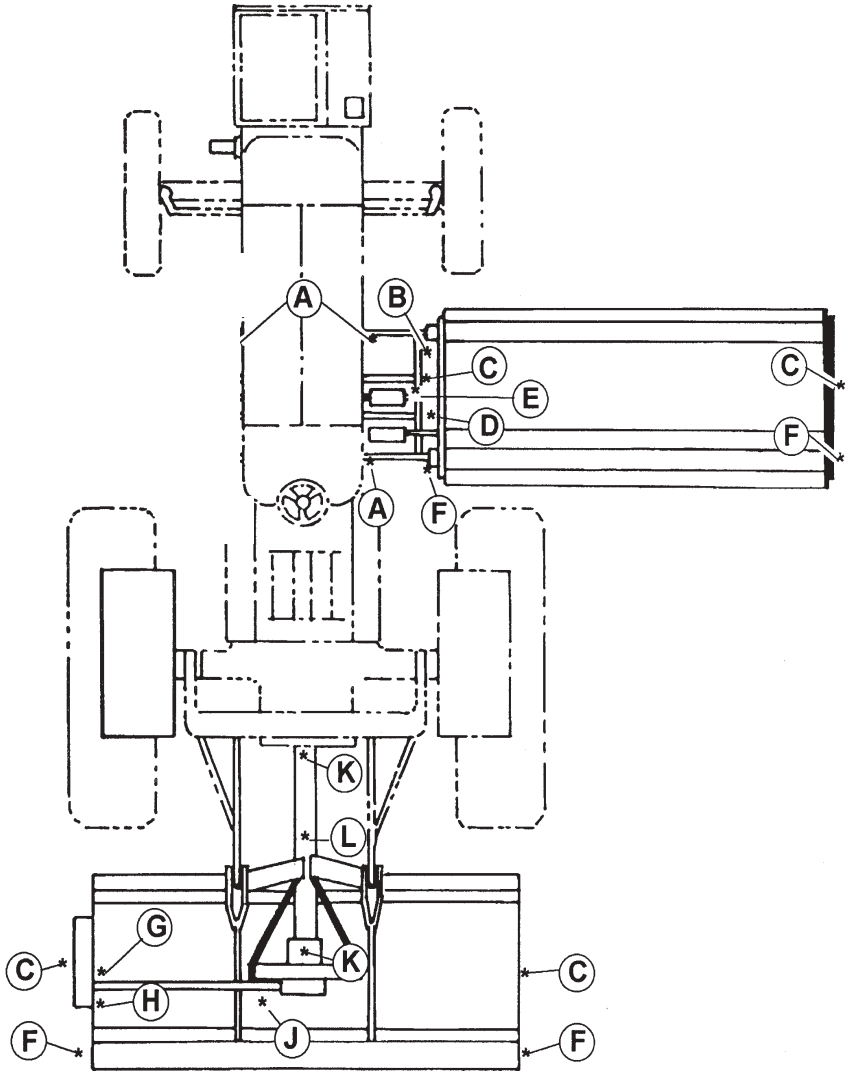
Lubrication Points



LUBRICATE ALL POINTS BEFORE OPERATING MOWER FIRST TIME

A	Lift Frame Pivot Pin	G	Rear Mower Idler Arm
B	Wing Mower Belt Idler Arm	H	Banjo Bearings
C	Cuttershaft Bearings	J	Banjo Coupling
D	TIlt Cylinder Rod Ends	K	Driveline Yoke
E	Lift Cylinder Rod Ends	L	Driveline slip
F	Roller Bearings		

Figure 9

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Initial Start-Up Procedure

INITIAL START-UP PROCEDURE:

1. Check all nuts and hex head capscrews to ensure all are tight and all lock washers are fully compressed (flattened).
2. Check all hoses and hydraulic connections. Make certain they are secure.
3. Inspect all moving parts and besure that no wires or hoses will be caught or pinched when the tractor or the INTERSTATER is in operation. Tie down loose wires and hoses.
4. Thoroughly grease the INTERSTATER and install a lubricap on each grease fitting. Refer to the Operation and Maintenance Section.
5. Jack front of tractor up enough to allow axle to pivot through its full range. While turning wheels through their limits, right and left, swing them up and down. Look for interference between tires and any part of the INTERSTATER. If interference occurs, shims (not furnished) must be welded to axle pivot stop or steering arm to limit the movement enough to avoid interference. Tractors with an adjustable front axle may require an outward adjustment of the wheels.
6. To fill the INTERSTATER reservoir with new, clean hydraulic oil, follow the steps below. Refer to the Operation and Maintenance Section for specifications. (See Figure 10)
   - A. With a hydraulic jack raise the right side of the tractor. This will tilt the tank and allow only a minimum amount of air when filling.
   - B. Avoid hydraulic contamination by filtering the hydraulic oil while filling the hydraulic tank.
   - C. Filter buggies or carts are commercially available for hydraulic system clean-up. These consist of a high-efficiency, high-capacity filter, a circulating pump, a drive motor, and hoses for connecting the overhauled machine's hydraulic system.
   - D. After the first 10 hours of operation, replace the hydraulic filter with a new one. An extra Filter Element is provided for you. Refer to the Operation and Maintenance Section for instruction.

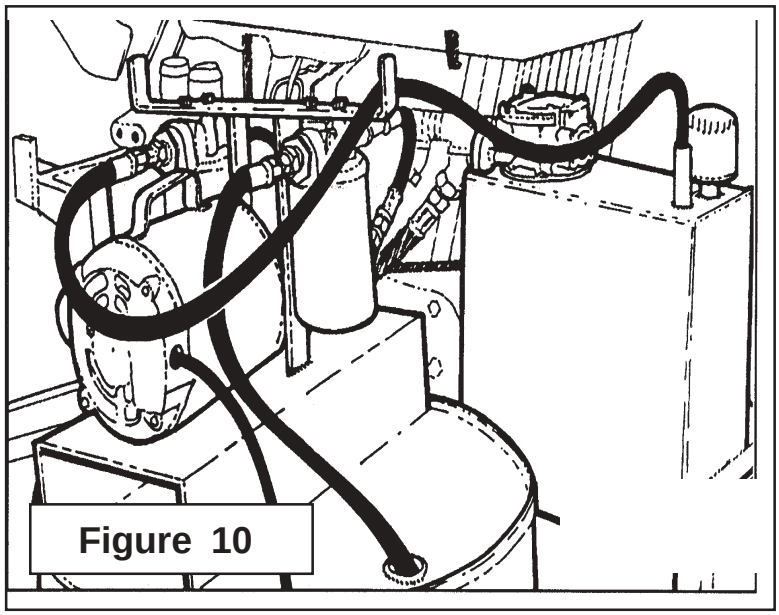

Figure 10

7. After the Interstater mower is completely assembled to the tractor and with the wings on the ground, fill the mower hydraulic tank above the oil level sight gauge approximately 5" or 1" below the top of the tank.

8. With mower ON/OFF switches in "ON" position and tractor fuel cut off, crank engine for about 30 to 45 seconds to allow oil to fill pumps and motors. Check the oil level in the sight gauge. If no oil is seen add oil to bring the level up to the sight gauge. NOTE: Do not fill the tank with oil above the level of the sight gauge. Over filling the tank with oil after the initial filling may result in oil being discharged through the air filter on top of the hydraulic tank. Start the tractor and run it for 2 minutes and then turn it off. Again check the oil level in the sight gauge. If the oil level is in the sight gauge, the unit is ready to run. If no oil is seen, add oil to bring the level up to the sight gauge.

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Initial Start-Up Procedure

CAUTION ROTATING KNIVES! Remove all foreign objects and stand clear of cutter units. DO NOT GET NEAR!

NOTE: On tractor hydraulic powered circuit only, make certain that there is full flow from tractor hydraulic system to control valve. Refer to tractor manual.

9. After hydraulic system is fully charged and functioning properly, switch cutter units on, then speed engine up to 540 RPM PTO speed. Maintain this speed for about 5 minutes. Check complete INTERSTATER, look for any leaks,loose connections, or anything that could cause premature wear or failure.

FINAL CHECK

Run INTERSTATER for about 1/2 hour at full speed. Check for leaks and vibrations. Frequently check oil temperature. Make certain it does not exceed 180 deg.

NOTE: When raising wings, make certain there is no interference with mower, frame, cylinders or tractor. Lift wings slowly.

CAUTION: DO NOT leave unit unattended, and COMPLY WITH ALL WARNING DECALS.

If unit starts to make unusual noise, stop unit and check oil level. Also check for frothy oil which would indicate a leak on suction side of system.

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NOTES

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Section 6

INTERSTATER

Massey Ferguson

5435 , 5445, 5455 & 5460
Cab - 2 Wheel Drive
Standard Hood

Mounting Specifications & Mount Kit Numbers

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MOUNTING SPECIFICATIONS

Massey Ferguson 5435/5445/5455/5460
w/ Cab - w/2 Wheel Drive - w/Standard Hood

7.50-16 (I-1) Max Front Tire *As of: 9-11-04*
16.9-28 (R-4) Max Rear Tire

Mainframe Assy: Right Hand Only (Offset 5") ……..…..….....02981881
Component Crate: RH Only w/Tractor Hyd ……..…….....02981312

Options:

Lift Chain Kit (See Spec Below) ……..... 701836

Specifications:

1. The tractor must be equipped with a through-hood exhaust. If it has an A-post exhaust instead, then it must be rerouted horizontally beneath the cab.

2. The tractor must be equipped with a “standard hood”. Tractors equipped with a “high-visibility” hood require a special mainframe to allow clearance for servicing the battery which is located just below the right side of the operator platform .

3. If a rear head is needed, it can be ordered as a 96" centered or 88" with an 8.5" offset.

4. The mainframe should allow approximately 9" of ground clearance when equipped with the maximum tire sizes listed above.

5. The right hand steps must be removed for head clearance. Ingress/egress on the right is otherwise blocked by the control stand.

6. Two lift chains are recommended for centered heads, while offset heads should only be ordered with one.

7. Mount kit includes Neapco style driveline with double U-joints.

8. The right hand only component crate for tractor hydraulics includes hoses and fittings for coupling to the rear tractor hydraulic remotes. Note, the tractor must be equipped with two remotes.

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MOUNTING SPECIFICATIONS

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Mount Kit Components

IMPORTANT NOTICE: The following Part / Assembly Numbers are for reference and should not be ordered as replacement parts, unless all the components in that assembly are wanted. These will break down to bills of material of the components. Some of numbers listed are NOT individual Parts but complete assemblies and/or box of assemblies. Check before ordering.

02981881 Interstater Mount Kit : Consist of Following Part No.

Part No.	Qty	Description
02981801	1	Main Frame Support Weldment, Rear
02981809	1	Main Frame Weldment
02981813	1	Main Frame Support Weldment, LH Front
02981814	1	Main Frame Support Weldment, RH Front
5312316	4	Washer 25/32" ID, Hardened
02918600	4	Bolt, Hex Head 3/4" -10NC X 2" Gr 8
00037200	8	Locknut, 3/4" -10 NC
02975669	8	Bolt, Hex Head M20-P2.5 X 60 MM PL 10.9
02971158	12	Lockwasher, 20 MM
02981885	4	Bolt, Hex Head 3/4" - 10 NC X 4-3/4" PL Gr 8
02971342	4	Bolt, Hex Head M20-P2.5 X 45 MM PL 10.9

These items are included in Interstater Mount Kit P/N 02981881

02981312 Interstater Component Crate : Consist of Following Part No.

Part No.	Qty	Description
002364	1	Hose #16-16FJX -16FJX45- 65.5
002365	1	Hose #16-16FJX -16FJX90- 62.5
002482	1	Hose #16-16FJX -16FJX90- 72" LG
002501	1	Wire Harness,Interstater ,RH1st w/Cab
02966874	1	Cable Boot
02968160	1	Hose #16-16FJX -16FJX90- 52" LG
02973712A	1	Driveshaft Asy. w/ 7/8-13 Spline Clamp Yoke
02977222	1	Plate, LH Tank Mount
02977238	1	Plate, RH Tank Mount
108423	1	Pump Mount, Machined
108436	1	Lift Frame Weldment RH
702717	1	Pump Asy, Single Pump
02981313	1	Carton , Small Parts - MF5400 C/2
02905100	3	Hose #4 - 4FJX- 4FJX -114LG (f/ Lift & Tilt Cylinders)
02980151	1	Cylinder Support Weldment

These items are included in Interstater Component Crate P/N 02981312

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Mount Kit Components

02981313 Carton of Small Parts: Consist of the following Item No.

Item No.	Qty	Description
00763977	1	Decal, Notice To Owner
02906300	2	Sleeving f/ Large Hoses - 48” LG
02919400	2	Adapter Hyd Elbow 16MJ -16MJ 45°
02958920	1	Adapter Hyd Elbow 20MP -20MJIC 90°
02961115	1	Adapter, Pipe, 20FP-20FP, 90°
02961286	1	Adapter, Hyd Straight
02962748	1	Decal, ON-OFF Switch Cutter Valve
02964028	1	Switch, PUSH - PULL
02966873	1	Drawing, Boot Installation
02979238	1	Plate, Spacer Machined
803213A	1	Operators Manual Asy, Interstater
02981314	1	Bolt Bag, MF5400 Cab / 2 Wheel Drive
02980177	1	Switch Mount Weldment
02978281	2	Hose Ring Weldment
00751878	1	Pipe Plug, 1-1/4” w/ Socket Hex Head
002338	1	Cap, 3/4” Female Pipe
02822100	3	Adapter, Hyd Elbow
02811300	3	Check Valve LT-50-4BR
651312	3	Coupler Half, Male
03200285	1	Decal, Watch Your Step
000859	8	Plastic Tie
72414000	1	Adapter Pipe, 1-1/4” Close Nipple
108748	1	Spacer, Cylinder Collar

Carton of Small Parts is included in Component Crate P/N 02981312

02981314 Bolt Bag: Consist of the following Item No.

Item No.	Qty	Description
00003901	4	Lockwasher, 3/4” PL
00022200	8	Lockwasher, 7/16” PL
00037200	4	Locknut, 3/4” NC
02918600	4	Bolt, Hex Head 3/4” -10NC X 2” PL Gr8
02963645	4	Bolt, Hex Head 3/4” -10NC X 1-3/4” PL Gr8
02971158	12	Lockwasher, 20 MM
02971342	10	Bolt, Hex Head M20-P2.5 X 45 MM PL 10.9
02975781	4	Bolt, Hex Head 7/16” - NF X 1-3/4” PL Gr8
02976344	4	Bolt, Hex Head 7/16” - NC X 1-1/4” PL Gr8
02975669	2	Bolt, Hex Head M20-P2.5 X 60 MM PL 10.9
00002000	2	Bolt, Hex Head 3/8” - NC X 3/4” PL Gr5
00015800	2	Locknut, 3/8” - NC
00011100	2	Flatwasher, 3/8” Std.

Bolt Bag is included in Carton of Small Parts P/N 02981313

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NOTES

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Insterstater Assembly Manual
Massey ferguson
5435, 5445, 5455 & 5460
2004 Edition
P/N 02981905

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